

# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

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No. 27.

## THE INDUSTRIALIST.

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KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

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### The Nebraska Hot Bluff.

[A Paper read by Prof. Wm. K. Kedzie before the Kansas Academy of Science, Topeka, Oct. 13th, 1875.]

The somewhat startling natural phenomenon to which it is the object of this paper to call attention, is a bluff of the Missouri river, on the northern boundary of Nebraska and near the village of Ionia. It is also not very far distant from the opposite town of Yankton, Dakota, and has been principally visited and described by prospectors from the latter city.

It is in appearance a quite ordinary river bluff, about a thousand feet in length, one hundred and fifty feet high, and sloping from the river by which its base is washed at an angle of seventy or seventy-five degrees. By the undermining action of the river a large mass, some five hundred feet long, one hundred feet high, and twenty to thirty feet thick, was some months ago scaled from the face of the bluff and fell to its base forming a large mass of debris rising at some points fully forty feet above the level of the river. It is this immense fragmental mass which has displayed the striking phenomena so terrifying to the ignorant and superstitious of the neighborhood, and which very beautifully illustrate the important chemical transformations constantly in progress within the earth's crust.

Attention was first called to the peculiarities of this locality by a party of miners who were prospecting for indications of coal veins. On passing over this mass of debris they found steam escaping from the crevices at every point. The ground was also perceptibly heated, and by placing the ear to the earth a crackling sound was heard proceeding from below. An opening was made in the mass to the depth of two feet, when the heat became so intense as to be scarcely endurable. Upon perforating the heap still further with an ordinary auger the temperature was found to be rapidly increasing with the descent. An ordinary thermometer with a range of one hundred and fifty degrees was thrust into the auger-hole thus made, when the mercury shot up so rapidly to the top of the tube that it had to be

instantly withdrawn to prevent the bursting of the bulb. All these circumstances carefully considered seemed to indicate that the temperature of the interior of the mass was fully 212°F. The exterior was as a rule coated with a hard incrustation of mineral salts brought up by capillary action from below; on breaking this the interior was found in a fine pulverulent condition, closely resembling the slaking process of lime. The intense heat of the mass made itself felt for many square rods around, and the steam escaping from the crevices was of a peculiarly sour pungent odor. The mass is completely impenetrated by an abundance of beautiful crystals of Selenite (Gypsum); many of the crystals microscopic, others aggregated into masses of considerable size, and others still most perfect rhomboidal crystals upwards of a pound in weight. Peculiar incrustations are also noticed on the face of the partially decomposed rock, in some cases in the form of a white flaky powder having the taste of common alum; in others in the form of efflorescent crystals giving the marked flavor of Epsom salts. As already intimated the superstitious denizens of this region at once leaped to the conclusion that a young volcano had burst upon them in all its fury, and fortified themselves with due courage to meet the emergency. Attracted by their somewhat exaggerated accounts, Mr. A. W. Barber, the editor of the Yankton Press, visited the locality and made a careful and intelligent examination. It is to his courtesy that I am indebted for an interesting box of specimens of the minerals here undergoing such vigorous transformations, and for a full account of the nature of the bluff. A chemical examination of these specimens reveals at once the nature of the interesting transformations here in progress, which, while known to be actively in operation in many localities in Europe, have as yet been observed at comparatively few points within the limits of the United States.

This so called "hot bluff" then consists of two separate and mineralogically distinct ingredients. The main portion of the bluff from the base up to the height of a hundred feet consists of a bluish gray rock of uniform texture, somewhat schistose, soft and easily yielding to the knife, and to the eroding action of the river. So evenly balanced are its constituents that it seems a matter of question whether it should be properly called an argillaceous limestone, or a calcareous slate or argillite. For while upon analysis it is found to contain but about twenty per cent of the earthy carbonates of calcium and magnesium, it yet offers all the characters of a magnesian argillaceous limestone, effervescing but slowly in cold acids but with quite violent action upon elevation of the temperature.

Next above this the upper and remaining fifty feet of the bluff is completely interwoven with seams of varying thickness of a soft, friable, blue-black shale, in which exists in great quantity microscopic crystals of the bi-sulphide of iron ( $\text{FeS}_2$ ) commonly known as iron pyrites. Nuggets of

the same mineral are also found abundantly distributed over the face of the bluff. Now it is the products of the decomposition of this iron pyrites which form the active agents of all the violent chemical reactions here observed. We know that when exposed to the influence of atmospheric oxygen and moisture this mineral is rapidly decomposed, absorbing oxygen and becoming converted into Ferrous Sulphate, ( $\text{FeSO}_4$ ), commonly known as green vitrol, and free Sulphuric acid. Represented by formulae, this change would be:  $\text{FeS}_2$  plus  $\text{H}_2\text{O}$  plus  $7\text{O} = \text{FeSO}_4$  plus  $\text{H}_2\text{SO}_4$ . This Ferrous Sulphate again on more extended exposure is still further oxidized and becomes Ferric Sulphate or Sesqui-Sulphate of Iron, ( $\text{Fe}_2\text{S}_3\text{O}_4$ ). This in its turn is a very unstable compound and when brought in contact with other bases readily yields up its Sulphuric acid and becomes converted into the hydrated oxide of iron. When exposed in considerable mass, this decomposition of Iron Pyrites of course proceeds but slowly and specimens are frequently found illustrating the change in all its gradations. But when, as in the soft shale of this Nebraska bluff, it is found in the form of fine crystals appearing as glistening specks to the naked eye, its decomposition is very rapid and an abundance of free Sulphuric acid is produced. Hence it will hardly be a matter of surprise when I state that the soft shale from the upper layers of this bluff has become so charged with free Sulphuric acid as to be strongly sour to the taste and acid in reaction. In fact, on allowing a specimen of this shale to remain undisturbed in my laboratory for several months it was found to afford 5.35 per cent of Sulphuric acid in the form of the freely soluble Sulphates of iron and alumina.

Thus we have in the chemical constitution of this hot bluff a perfect explanation of the startling phenomena which are there occurring. Below, a rock largely consisting of earthy carbonates freely decomposable by the presence of free acids. Above, a series of layers completely charged with an abundance of this free acid. When, by the scaling off of the face of the bluff, these agents are intimately mixed in an immense mass of thousands of tons of debris the free acid immediately attacks the easily yielding carbonates with great violence and a "hot bluff" very naturally springs at once into existence. The intense degree of heat produced, however, is from another and more complex cause than this. If the simple acid shale were by itself without the limestone, piled in a large heap, and water added there would be a very rapid rise of temperature within from the greatly increased rapidity with which the process of the oxidation of the iron pyrites would go on under these circumstances. It is well known that in the shales of Whitby, Eng., when thus piled and moistened with water, the oxidation of the pyrites will develop so intense a degree of heat as to spontaneously set fire to the bituminous matter which the shale contains. But when, as in the case of this Ne-

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, OCTOBER 23, 1875.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## English Language for American Science.

The sole object of any language is to convey and preserve ideas. Words serve merely as cups that contain specific meanings. Hence the value of a language depends on two things, first, that the person speaking, and, second, that the person hearing, shall both understand the precise signification of the words used. If either party fails to do this, the language has failed to serve its purpose. A physician may fully understand the meanings of certain technical terms which describe a disease, but when he uses these terms in talking to a person who does not understand them he might as well keep his mouth shut. The terms may be good enough in themselves, and his knowledge of their signification may be perfect, but it is absurd to employ them as a language simply because the person addressed does not know their meaning. Hence it is evident that when men really want to convey ideas they must, from necessity, use words understood by both parties; and that the general value of a language to a given people will depend upon the number of persons who understand it. For this reason the German language is worth more to the Germans than is the French tongue; and the English language, for the same reason, is worth more to Americans than either French, Latin or Greek. Any man who talks English can travel comfortably in the United States, so far as understanding others or being understood by others is concerned; whereas the best foreign linguist, though he could spurt out as many different languages as a soda fountain can sirups, would find it difficult to order a railroad dinner or to negotiate for a box of paper collars.

This may be all wrong, as a matter of equity. It may be that every American ought to use any or every other language than his own. But it is nevertheless an actual fact. Americans do speak English, and there is no general desire to exchange it for any modern much less any ancient tongue. Somehow there is a national feeling, closely akin to patriotism, that this nation is big enough, strong enough and brainy enough to have a language of its own. The average American has a rollicking notion that English is good enough for him, and, therefore, more than good enough for the rest of mankind; that if the world wants the latest news and best thoughts it will save itself bother by adopting the English as the world's language; that the tongue which Shakspeare, the translators of

the Bible, Milton, Webster, Farraday and Agassiz found sufficient for their purposes is sufficient for any purpose; or, if it is not, that, as our language isn't yet fenced in, it can be made to convey any idea worth conveying or preserving. However deplorable, from a scientific standpoint, this national notion may be, it is quite as general and forceful as is the nation's love for its form of government; and not until congressional speeches are delivered in Latin, or legislative statutes are published in Greek, will the American people exchange their daily tongue for that of any empire, living or dead.

Such being the fact, the question is pertinent whether Americans may not fairly demand that American science, at least so far as it is taught in the common schools, or designed to be used by the masses, shall be expressed in English instead of in Latin or Greek terms. These schools are maintained by the American public for the education of the future American citizen, and it seems decent, as well as just, that any science which possesses enough practical value to the people to award it a place in the people's schools shall be taught in the people's tongue.

If it be affirmed that since the scientists of the world use the Latin terms, our scientists cannot communicate with them except we teach the same terms, then we ask which is the most important to us as a nation, on the one hand, that the masses of our people shall become familiar with the practical truths of natural science, or, on the other hand, that one pupil in ten thousand shall be so taught the Latinized science that he may expertly use it? And again, even supposing that the latter result is the more desirable, we ask whether the common school is the proper place to teach this Latinized lingo to the virtual exclusion of every-day English? It may be well enough, after that knowledge which is really useful to the ninety-seven industrial pupils has been imparted, to teach the scientific jargon; but, as things now are, the very language in which science is phrased virtually and effectively walls up its facts from the masses. So that the whole thing narrows itself down to this: Because a small circle of scientists, and when compared with the masses a very small circle indeed, choose to sputter Latin and Greek at each other, in talking about plants and animals, shall the children in the public schools not be informed on these subjects in a language which they already understand? At present the price paid for a knowledge of these things is the acquisition of two dead languages, and it is about time that somebody knocked that pedantic monopoly in the head by giving us text-books that employ English instead of Latin and Greek terms.

THE State Sabbath School Association meets this year at Fort Scott, Oct. 26-28; and, both because of the interest of the subject considered and of the town in which the meeting is to be held, there ought to be a large attendance. For further information, address H. Clarkson, Sec'y, Topeka.

Plenty of hay all over the State.

Prof. Tice predicts a mild winter.

Great Bend wants a steam flouring mill.

Peaches have been successfully shipped to England.

Wood seven dollars a cord at Independence. "Ager."

The largest corn field in Vermont contains five acres.

Two hundred and fifty bushels of onions to the acre in Lyon county.

Chetopa reports plumbago at a depth of eighty feet in the coal bore.

The Secretaryship of the Interior has been tendered to ex-Senator Chandler.

The population of Wichita is 2,754; Parsons, 5,120; Independence, 2,056.

Wilder's Annals of Kansas will be a book of 550 pages, 375 of which are printed.

Ten bushels of wheat and one hundred of corn to each inhabitant in Pawnee county.

A castor bean society in Franklin county has sold to one firm 35,000 bushels of castor beans, at \$1.15 per bushel.

## WEBSTER SOCIETY

OF THE

Kansas State Agricultural College.

Organized, Oct. 12th, 1868; chartered, Jan. 1871.

Motto: "Labor Omnia Vincit."

Meets Saturday evening each week.

M. F. LEASURE, President.

J. F. LA TOURETTE, Sec'y.

Dr. Patee. 11-20

## ALPHA BETA

## Literary Society

OF THE

Kas. State Agricultural College.

Organized, Oct. 17, 1868. Chartered, Dec. 26, 1870.

The society holds its sessions in the college building every Friday afternoon at two o'clock.

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A. A. Stewart, Sec'y.

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Geo. S. Green, Attorney.

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# THE INDUSTRIALIST.

SATURDAY, OCTOBER 23, 1875.

## Meteorology.

For the week ending Oct. 20, 1875. Condensed by Prof. Kedzie, for the Industrialist, from the records of the Chemical Department:

DAY OF WEEK.	Thermometer.			Bar.	Rainfall in in's.
	Max.	Min.	Me'n	M'n H't.	
Thursday.....	62°	32°	52° 1/3	28.78	
Friday.....	60	33	47	28.85	
Saturday.....	72	36	55	28.74	
Sunday.....	70	39	58 2/3	28.98	
Monday.....	58	31	43 2/3	29.14	
Tuesday.....	70	41	56 2/3	28.92	
Wednesday.....	78	47	61 2/3	28.86	

Average temperature for the week, 53° 57.

Range of " " " 49°.

Average barometer " " 28.88.

Per cent of cloudiness " " 21.

Purcell sells sorghum at forty cents per gallon. Clothing, Hats and Caps at low prices at Purcell's. Gents' collars, largest stock and lowest prices, at the Bazaar. 26

Ladies, have you seen those five dollar blankets at Purcell's. 27

Prof. Platt will conduct the services at the chapel Sunday 3:30 P. M.

Just received at Purcell's Cash Store five hundred bushels plastering hair. 26

Have you seen the two dollar shoes selling at Purcell's for one dollar per pair? 26

Until further notice the Bazaar will retail music books and sheet music at wholesale prices, and will sell pianos at \$100 less than Kansas City prices. 26

A young lady, well recommended, desires to work for her board in some family residing near the College, that she may attend it. For further information inquire at this office of an acquaintance of the young lady.

Two hundred years ago, when we were a boy, foot-ball naturally took the place of base-ball, as the weather grew colder. Wonder why it doesn't now, and why our boys don't warm up their blood and shins by trying it?

The Farm Department has lately made the following sales of live stock: Prince Rupert, 20707 A. H. B., to Senator Harvey, Vinton, Kansas; price, \$175. Berkshire sow, to Gov. N. Green, Stockdale, Kansas; price, \$20. To L. N. Holmbyrg, Lindsburg, Kansas, pair of Berkshires; price, \$20.

Prof. Platt's vocal music classes are full to overflowing, and they more than fill the chapel with flowing music. The Professor is a splendid drill master as well as musician; one of the natural sort, who sings because he can't help it, and won't let others sing like hand-saws if he can help it.

At the meeting of the Alpha Beta Society last Friday afternoon the question "Is country life preferable to city life," was discussed. The pleasures of country life were detailed to the members in an admirable manner, while the sights to be seen, the knowledge to be gained, and the more elevated state of society, were arguments produced in favor of city life. Decision in favor of negative. A greater number of members were present than usual, consequently the meeting was an interesting one.

The Websters met last Saturday night in the telegraph hall. This proves a pleasant place of meeting. The full attendance and the deep interest taken in all the proceedings made the meeting both pleasant and profitable. After initiation of candidates and debate came extemporaneous speaking. Under this order all took part on various topics. An amusing essay was then read by Mr. Malls. Messrs. Boles, Lewis, D. Hodges, F. W. Wood and Arlie Wood were received as members. A committee was appointed to arrange for obtaining pictures with which to adorn the room, and to find cost of a suitable chandelier and lamps. After adjournment books from the society library were distributed among the members.

## The Sewing Department.

We don't hear so much respecting the impossibility of teaching trades in a college, as we did a couple of years ago. And for at least six months we haven't seen any body's nose twitched aloft at the unaristocratically of such teaching. The hair-parted-in-the-middle Charles Augustuses have not been around as numerous as in days of yore. And the sensible people who visit the industrial departments see so many undeniable evidences that the trades can be and are being successfully taught, that they don't stop to debate the abstract proposition.

Of all those especially valuable to a woman there is no one in which greater interest is taken by the pupils or greater tact and ability are shown by the instructor, than that of dress-making and millinery. Mrs. Cripps not only herself thoroughly understands the business, but she is apt and effective in teaching others just what to do and what not to do. And any body who fancies that girls need no instruction in the use of the needle and scissors, as a great many bodies do laughingly fancy, can very speedily have that error corrected by spending a few days in the sewing department. In the glorious ignorance and credulity characteristic of men respecting these things, we used to suppose that when bright young ladies said they knew how to make a dress, that they did; but after noticing several who couldn't sew a plain seam by hand, except on the rail fence pattern, our credulity began to give way to doubt, and doubt to disbelief. At present we believe that the average American girl as much needs instruction in sewing and cutting as the average American boy does in spelling and penmanship. It often happens that mothers who are themselves deft workers with the needle fail to give any instruction to their daughters just because they would rather do the work themselves than "have it spoiled." Ditto, in the matter of cutting a dress. And it more frequently happens that the mother is not competent to teach the girl properly. There is just as much carelessness and slouching in sewing as there is in house-keeping, and every body knows that there is a deal of the latter.

It is very easy to decide whether a girl will derive benefit by entering the sewing department. If she can do all that is there taught, her time can be better spent elsewhere; if she cannot, it cannot; and an hour's examination will settle the question. One thing is certain: That every girl will find use in after life for just the knowledge and skill offered by this department. Many a weary hour will be saved by acquiring the taste and expertness there imparted. As a rule the girl who at eighteen practices on the piano an hour a day cannot at twenty-eight play twenty pieces, and at thirty-eight can't play one. But so far as our observation goes, women use the needle more at thirty than at twenty years of age, and still more at forty than at thirty. Perhaps there are natural reasons for the fact, but at any rate it is the fact. And for the life of us we can't see why girls should not act accordingly in taking an "education."

There is another thing which we can't see, and the more it is thought about the harder it is to see it: Why should not this department take in sewing, charge for it, and give the proceeds to those who do the work? Some of the best students in the College are educating themselves by daily work. If they hire out to do cooking nobody objects that "our trade is being interfered with." Why hasn't the same girl, precisely the same right to hire out her needle without the charge of interference? If the College were thus seeking to make money for its own purposes it would be different, but it isn't; it is only asking that such girls shall have a fair chance to fairly earn a livelihood. No one could question the girl's right to do this if she appeared in the market as a seamstress, and how she loses her right by entering College, or in any way violates it, is beyond comprehension. If any of our readers wish sewing done, bring it along. If it is not satisfactorily done, pay in proportion. If it is well done, pay full price.

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[Concluded from first page.]

braska bluff, to the heat generated by this rapid oxidation produced by increased exposure to air and the water of the river and rains, there is added the violent avidity with which the free sulphuric acid attacks the carbonates of lime and magnesium, the effect is naturally powerful and startling in the extreme.

Under these encouraging conditions many interesting chemical compounds are here in the process of formation. By the decomposition of the carbonate of calcium by the Sulphuric acid, magnificent crystals of Selenite (Gypsum) are now forming in immense abundance. The crystals are exceedingly perfect and beautiful; many of them somewhat rare in form, long, slender, needle shaped crystals, but still perfect rhomboidal prisms with bevelled edges. In some instances in the solid mass of the bluff itself, where the layers of the limestone and the acidified shale are conjoined, there are formed seams of a half inch or more in thickness completely filled with interradiating crystals of Selenite partially coated with the yellow hydrated oxide of iron. By the decomposition of the magnesium carbonate there is here formed Magnesium Sulphate or Epsom salts distributed over the rock in a very minute incrustation of efflorescent crystals.

Finally by the slow decomposition of the argillaceous or clayey portions of the rock itself there is produced the Sulphate of Aluminum in minute crystalline tufts called on account of its form "Feather Alum." These last two compounds suggest an economical phase of what has thus far been simply an exceedingly interesting chemical phenomenon. It is well known that the great proportion of the common alums are manufactured from shales almost identical in nature to those which form the black seams of this Nebraska bluff. In the great English alum fields, for example, the shale full of partially decomposed pyrites is collected, piled in oblong heaps, and slowly fired to completely carry out the oxidation which has been begun. A large quantity of free sulphuric acid is thus produced which attacks the shale forming Aluminum Sulphate. This is removed by leaching with water and the addition of some available form of potash or ammonia is all that is needed to crystallize out the common potash or ammonia alums of commerce. Now in the case of this Nebraska bluff, this oblong mass of heated debris bears no very distant resemblance to a "curing heap" of an alum manufacturer. The presence of the limestone is to be sure most unfortunate and would necessarily be avoided if the acidified shale was to be handled with a view to profit. The small quantity of the magnesium carbonate present would be by no means unpropitious as the manufacture of Epsom salts and the alums is frequently carried on together at a handsome profit. If the accounts of intelligent observers are to be accepted, there would seem to be little doubt that this region may prove available in these branches of manufacture. But whether thus utilized or not, this display is surely a most fascinating one to the chemist and mineralogist,—nature seeming in some degree to have pulled aside the curtain and given us a peep behind the scenes, where we are permitted to see her in the very act of forging these marvels of crystalline creation.

The Iowa corn crop is estimated at 130,000,000 bushels.

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DRILL IN ENGLISH,  
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STUDY OF WORDS,  
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Constant practice in the class room, and, if desired, at the printer's cases.

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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

Vol. 1.

MANHATTAN, KANSAS, SATURDAY, OCTOBER 30, 1875.

No. 28.

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OF THE

KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

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#### Ozone in Kansas Atmosphere.

[A Paper read by Prof. Wm. K. Kedzie, of the State Agricultural College, before the Kansas Academy of Science, Topeka, Oct. 13th, 1875.]

We hear much from every quarter of the healthfulness so generally characteristic of the climate of Kansas; and no person long resident within the State can have failed to be strongly impressed by the unmistakable health-producing and health-sustaining features of Kansas atmosphere. None of us need to be reminded of the general immunity which we enjoy from the inroads of bronchial and lung difficulties; nor to recall the startling recoveries which we have all witnessed when invalids are brought into our midst completely prostrated by these maladies as they prevail in more eastern localities. I doubt not every thoughtful student has carefully sought for the adequate causes which have brought about so admirable a sanitary result. Our altitude above the sea is considerable, and yet is manifestly insufficient to account for so well marked a condition. Our atmosphere is proverbially a dry one; but an arid climate is not necessarily a healthful one. Now it is far from being the object of this paper to attempt any solution of this interesting problem, in which so many elements must obviously enter and in the discussion of which any unanimity of opinion is well-nigh impossible. It is simply my desire to call your attention, as a possible explanation of our climatic superiority, to the existence of an element which has thus far received little attention among us: the Ozone, everywhere prevalent in Kansas atmosphere. Nor is it any part of my intention to present here any elaborate discussion of the nature of this element nor of its supposed relations to the conditions of health and disease. This element has now been known to chemists barely thirty-five years, and yet ever since its discovery in 1840 by Schonbein, of Basle, it has probably received from chemists more universal attention with less satisfactory results than any other one body. It is only recently that a prominent member of the British Association pronounced any attempt to investigate the

nature or relations of Ozone "a delusion and a snare," and the great majority of English and American chemists have seemed disposed to "take him at his word," as its investigation has been by them almost wholly neglected. The whole matter seems to have been left to the researches of a few German and French chemists whose half contradictory results have appeared only in disjointed articles in the foreign periodicals. Indeed but one volume of English authorship, making any pretensions to thoroughness in the matter, has appeared; and even in this the subject is treated in a most fragmental and unsatisfactory manner.

But notwithstanding this disheartening meagerness of our knowledge of the nature of Ozone and of the conditions in which it appears, there can be no shadow of a doubt that the relations which it sustains to organic life in every form are of most vital importance, and that we to-day are more generally indebted for our sanitary well-being to its indirect influence than we have as yet any conception. Now we know this Ozone to be an allotropic form of oxygen. We know it to be commonly produced by the action of electricity on the oxygen of our common air. Its peculiar odor as thus produced has been known from the most remote antiquity. Homer, in his *Odyssey*, speaks of the atmosphere, after the passage of the thunderbolt, as being "quite full of sulphurous odor," and it is a common experience of those who have happened near a lightning stroke that it is instantly followed by this strong characteristic odor. A positive proof of this fact, however, was furnished by a Swiss scientist, Buchwalder, who while traveling in the Alps was overtaken by a violent thunderstorm in which his guide was instantly killed by a lightning stroke, and the powerful odor was at once apparent. Shortly afterward he visited the laboratory at Basle, in which Schonbein was manufacturing a large quantity of Ozone for experiment, when he at once expressed his astonishment at the strong "smell of lightning" which he had just observed a few days before in the thunder-storm on the Alps. Thus the identity of the phenomena was plainly established. The same odor may be observed around an electrical machine during its operation in a close dry room. The allotropic condition of Ozone, however, is best illustrated by a single experiment. We know that the metal silver remains bright and unaltered in dry oxygen gas. But let a strip of silver be enclosed in a tube of oxygen, and let a succession of electric sparks be passed through, Ozone will be produced and the silver will almost immediately become covered with a black deposit which is nothing else than silver oxide. On heating this black deposit pure oxygen gas will be again given off. The views of Schonbein as to the nature of Ozone are not at the present day generally accepted. He looked upon oxygen as an electrically neutral body made up of an electro-positive and an electro-negative atom. Its condition then pictured itself to his mind as  $O^+ O^-$ , standing side by side. By the action

of the electric current he considered its particles to become so altered in their mutual positions as to produce two distinct bodies: First, Ozone, represented  $O^- O^+ O^-$ ; second, Antozone, represented  $O^+ O^- O^+$ .

This view is now, however, wholly abandoned. As to the existence of Antozone it is here entirely unnecessary to speak. It is now looked upon by the generality of chemists as probably nothing else than the peroxide of hydrogen. Ozone itself is now regarded by leading authorities as merely condensed oxygen, with a density of one and a half times that of oxygen. Hence if we represent a working particle of oxygen by  $O_2$ , that of Ozone would be  $O_3$ . We would thus give it the equivalent 48. For the purposes of experiment we can produce Ozone by a great variety of methods: By a slow oxidation of phosphorus in a moist and confined atmosphere; by the decomposition of the vapor of sulphuric ether by the agency of a glass rod heated to temperature of  $250^\circ F$ ; or in large quantities by the decomposition of the permanganate of potassium by sulphuric acid. As evolved by all these methods it exhibits its remarkable properties: A colorless gas of a powerful, pungent odor (whence its name, which signifies "odor-producer;") exerting a peculiar irritating effect upon the mucous membrane of the throat and lungs; and with the oxidizing characteristics of ordinary oxygen much intensified. It will attack metals and decompose binary salts which it is entirely beyond the power of ordinary oxygen to touch.

Thus much and briefly as to the nature of this remarkable body. Next as to its existence in our atmosphere. This is found by careful experiment to be all but universal, but varying immensely in degree and intensity as determined by surrounding circumstances, particularly the presence or absence of decomposing organic matter. The natural processes which produce Ozone in our atmosphere are most numerous and varied. Its production by atmospheric electricity has already been mentioned, and although the results from this cause are most startling it is not probable that its effects are at all proportionate to that of the numberless silent producers of atmospheric Ozone. Indeed it seems very probable that there is no process in nature in which oxygen is either absorbed or liberated in which there is not a proportionate quantity of Ozone evolved. Meissner has plainly proved that not only in rapid process of combustion, but in the slow processes of decay a certain quantity of Ozone is produced, the greater portion, of course, instantly disappearing when brought in contact with the decomposing matter, but still a recognizable portion escaping undestroyed into the general atmosphere. The mere process of evaporation from large bodies of water is also a most powerful contributor of Ozone to the atmosphere. But above all these the latest researches in this fascinating field have indicated a third possible and more powerful source still: the process of

[Continued on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, OCTOBER 30, 1875.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

JUDGE BREWER, of the Supreme Court, begins his lectures on Practical Law, at the Agricultural College, Tuesday, November 9.

## The Farmer and the Times.

The test of friendship is adversity; the value of the good ship is shown by its action in the storm; and by a similar criterion we may judge of the worth of an occupation. People are generally agreed in pronouncing the times unusually "tight" just now. Business is more or less suspended if not positively paralyzed, and the long list of failures that burdens every day's telegrams seems to indicate that we have not yet reached the end. It is pleasant to notice that while wholesale ruin has overtaken so many prominent industries, the business of agriculture has suffered no positive injury, scarcely a decline. While the products of mine and manufactory have sunk so low in value as to be produced only at a loss, the demand for the staple articles of the farm is greater than ever and at prices considerably in advance of those ruling in ante-bellum times.

The cause of all this is not far to seek. The war withdrew from the side of production millions of its most busy workers; it created a thousand wants hitherto unknown; it projected railroads into the wilderness, and reared manufactories on every hand. But with the end of the war there came an end to demand, and now we have scores of railroads that "don't pay running expenses," and factories little and big are closing with a crash.

But with all this confusion we have yet to hear of a farmer failing, as a result of the "tightness" of the times or an insufficient demand for his wares. The truth is it is impossible to overdo agriculture. Taking the years together the world needs every bushel of grain and every pound of meat the farmer can raise. People may refuse to build railroads or to ride on them—but they must eat. A spasm of economy may banish all the luxuries from the tables of the land, but this will only increase the demand for the plainer articles grown upon the farm. So, too, in clothing, silks and broadcloths are not necessities, but the products of our flocks are indispensable. And thus it is in everything. Economize and curtail as we may, we must yet pay our tribute to the farm.

On the whole we are forced to conclude that the prospects of no other art or calling will bear any sort of comparison with that of the farmer. With crops and prices gen-

erally good in the north; an immense cotton crop at the south; and with money in abundance to "move the crops," the farmers can listen with complacency to the cries of the wounded "bulls and bears" of our business centers. The general influence of the panic upon agriculture can scarcely be other than good. Our cities will not gain in population during the coming ten years as the past, and the number of "openings" by which ambitious young men escape from the farm will be greatly diminished. This, with the numerous accessions the "landed interest" will receive from those forced out of the cities, will give to the farm an importance in the eyes of our people that it never has enjoyed before.—[Prof. Shelton.

## The Ensilage of Corn Fodder.

Not long ago one of our large stock-raisers assured the writer that if there was any way by which corn fodder might be cured and housed as easily and safely as hay, he for one should go largely into its cultivation. We believe that this is the general opinion of farmers who have given this subject much attention. There are few if any forage plants that will give as large a return of nutritious and palatable food as corn, sowed broadcast, or in drill, and cut when coming into blossom. The great obstacle to its general cultivation has ever been the difficulty experienced in properly curing and harvesting such dense masses of succulent vegetation.

We notice of late, in the eastern agricultural journals, considerable discussion of the value of a method of treatment of green corn fodder, lately introduced from Europe, which, if one-half that is claimed for it proves true, will add immensely to the value of corn as a fodder plant. The method of "ensilage" is thus described in one of these journals:

"To ensilage is to bury in silos pits, and the ensilage of maize consists in cutting up corn which has made a full growth, but is still green, and chopping up the whole plant more or less finely and then placing it in pits prepared for the purpose and covered with earth."

The whole process is identical with that followed in the manufacture of sauerkraut, and the object accomplished is almost precisely the same. The vegetable juices undergo to a considerable extent fermentation and decomposition, there is a transformation of woody fibre, and the whole mass is rendered palatable and digestible. It is claimed that corn fodder thus prepared is eagerly devoured by the stock, and that it exerts an especially favorable influence upon the secretion of milk. We shall watch with a good deal of interest the progress of this method east, and hope another season to be able to give it a trial upon the College farm.—[Prof. Shelton.

THE annual meeting of the Northwestern Horticultural Society was held a few days since at Beloit. Northwestern Kansas was well represented at the meeting. It was our special privilege to form the acquaintance at this meeting of a good number of men who will take the lead in orchard and forest culture in western Kansas. They do not belong to that class of men who sit down and wait for a country to grow, but they are those that make it grow. Without question the upper Solomon valley has few equals in the world. It seems but yesterday since the red man hunted the first settlers down the valley; hence the improvements of today are a wonder even to an old Kansan. But while we are ready to accord to this beautiful valley all due praise, as we look upon the substantial improvements that line the banks of the Solomon, we are forced to say that it is the men "it is the men that make the nation."—[Prof. Gale.

## WEBSTER SOCIETY

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Dr. Patee.

11-20

## INJURIOUS INSECTS.

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[Continued from first page.]

vegetable growth. We know that the processes of vegetable nutrition depend primarily upon the fixation of carbon, that is, the absorption of carbonic acid from, and the return of oxygen to, the atmosphere. Now Daubeny has proved by careful experiment upon a slow current of air passing over a living plant that the liberated oxygen thus produced was accompanied by indications of Ozone. No matter how minute the amount thus produced, when we consider the enormous extent to which this operation is everywhere in progress, we must look upon it as a most probable and abundant source of Ozone to our atmosphere. This hypothesis too enables us to explain certain well known facts in vegetable nutrition otherwise inexplicable. Thus we know that many plants which contain the greatest amount of nitrogen in their composition are not always those which are most benefited by the use of nitrogenous fertilizers. Such plants are almost invariably large leaved, exposing an immense foliage surface. Hence the query naturally arises whether these plants may not have the power of supplying themselves with nitrogen compounds through the indirect action of the Ozone exhaled from their foliage. We know that this element has the power of oxidizing the nitrogen of the atmosphere first into nitrous and then into nitric acids, which in combination with the atmospheric ammonia might thus be furnished the plant in no insignificant quantity.

But from whatever source produced it is obvious that by far the larger portion of our atmospheric Ozone must, on account of its intense oxidizing powers, be almost instantly consumed by decomposing organic matter wherever present. Hence is explained the circumstances in which we find the most abundant evidence of its existence. The atmosphere immediately surrounding stables or outhouses or over decaying refuse heaps will afford not the slightest trace of Ozone; not, we are to understand, that it may not be there produced, but, when formed, it is at once consumed by the oxidizing processes in progress in such localities. Hence we are not surprised to learn that in cities the indications of its presence are much more feeble than in the pure air of the country uncorrupted by organic effluvia. Even in so moderately a populated city as Manhattan, I have found the result of my Ozone observations much less striking than in the fresher atmosphere of College Hill, two miles away. In the atmosphere of Topeka I have found its amount still less. In densely populated and especially in manufacturing cities we of course find the diminution more startling still. The city of Lyons, France, has positively afforded not a single indication of the presence of Ozone, and so proverbially is this the fact that it has been dubbed among French chemists "the town without Ozone."

[Concluded next week.]

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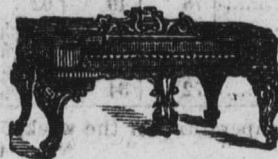
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# THE INDUSTRIALIST.

SATURDAY, OCTOBER 30, 1875.

## Meteorology.

For the week ending Oct. 27, 1875. Condensed by Prof. Kedzie, for the Industrialist, from the records of the Chemical Department:

DAY OF WEEK.	Thermometer.			Bar.	Rainfall in in's.
	Max	Min.	Me'n	M'n H't.	
Thursday.....	80°	42°	65°	28.79	.30
Friday.....	78	45	61 2/3	28.72	
Saturday.....	78	49	62	28.62	
Sunday.....	80	47	65 1/3	28.52	
Monday.....	52	32	46 2/3	28.64	
Tuesday.....	57	32	42 2/3	28.75	
Wednesday.....	72	34	53 2/3	28.44	

Average temperature for the week, 56°.62.  
Range of " " " 48°.  
Average barometer " " 28.64.  
Rain-fall " " .30.  
Per cent of cloudiness " " 42.

Chapel service to-morrow by J. A. Anderson.

The examinations for October were held Friday.

Gents' collars, largest stock and lowest prices, at the Bazaar. 26

Oct. 28.—One hundred and sixty-nine students have been enrolled this term.

Capt. A. Todd wants one load of straight and sound maple wood, for turning.

The inevitable donkey who starts prairie fires that run for miles has been at work this week.

There is a letter here for John H. Folks, Esq., Wonder if there's money in it? Send directions.

Prof. Worrall was sketching Manhattan, the Farm and Rocky Ford, this week, for the next Agricultural Report.

We have numerously forgotten to say that this is exactly the right time of the year to subscribe for this indispensable State "organ."

Mr. John Schwalm, one of our students, started this week for his home in France. We wish him a pleasant visit and a speedy return.

Until further notice the Bazaar will retail music books and sheet music at wholesale prices, and will sell pianos at \$100 less than Kansas City prices. 26

The Atchison Champion, one of the best dailies in the State or in the west, makes regular visits to our sanctum as an exchange, for which we are very much obliged.

Good board at Boarding House for \$2.75 per week. Rooms furnished with stove, bedstead, chair and table. Girls will be conveyed to and from College when weather is bad. A. TODD.

Mrs. D. B. Wood, of Parsons, and Mrs. G. W. Lewis, of Chetopa, mothers of Messrs. Arlie Wood and Ira Lewis, who are attending the College, visited the Institution this week. They expressed themselves as well pleased with what they saw in the various departments.

We have the following this week from the Farm Department: The Shorthorn cow, Grace Young 5th, recently dropped a handsome red and white bull calf, got by the Fidget bull, 3d Prince of Oxford, 12,676 A. H. B.; and the Jersey cow Duchess, a fawn and white heifer calf, by Glenco 404 A. J. H. B.

The following students have entered since our last report: Wm. W. McKanlass, Junction City, Davis county; George H. Perry, Manhattan, Riley county; Amos E. Wilson, Solomon, Dickinson county; Frederick A. Bletcher, Reedsville, Marshall county; Irving Richmond, Delano, Sedgwick county; John McNamee, Mary F. McNamee, M. McNamee, Junction City, Davis county.

The Lecture course before the students is progressing admirably, and cannot fail to be of great practical benefit. Prof. Shelton appeared in turn with an interesting discussion of the ox—its value as an article of food, effect on civilization, origin and early history of American cattle. Unfortun-

nately for us we were absent, but hear the lecture spoken of in the highest terms.

Prof. Gale took the stand this week with "The Line" as a subject, which was presented with reference to its uses in life and its position in education. It was an original and effective discussion of a new and strong subject.

People who want to hear good things couldn't do better than to invite the gentlemen who have appeared in this course to their cities—all except this undersigned.

## Answers to Correspondents.

Osage City:—The Hand-Book sent you gives full information respecting the purpose, facilities and requirements of the Agricultural College. As it was published in 1874 it does not contain the present calendar, which is as follows: The current term began August 26th and will close Thursday, December 23d. The winter session will begin Wednesday, January 5th and close Wednesday, May 24th, 1876. There is no charge of any kind for tuition or "contingents." Pupils taking instrumental music pay \$1.00 per week for use of instruments. With this exception, the facilities of the Institution are absolutely free to all. We do not furnish text-books, boarding or clothing,—only instruction.

Boarding can be had at from \$1.00 to \$4.00 per week. In the first case the cost depends upon the number who are in a "club," and the quality and quantity of the provisions devoured. Capt. Todd furnishes a room, bedstead, chair, stove and good meals at \$2.75 per week. Other parties, furnishing everything except washing, charge \$3.75 and \$4.00. You can get text-books here; bring those you have.

Mitchell county:—A person entering the College must be fourteen years of age, and may be as many more years as suits his fancy. He must have studied English grammar to syntax, and arithmetic through decimal fractions. The "amount of money required to take a student through six months" will depend on what he wants for his money. Boarding, washing and text-books, under any circumstances, ought not to cost over \$100 per term. If he "clubs," this sum can be reduced to \$30 or \$35 per term of twenty weeks.

Leavenworth county wants to know in what respect the literary course, for a young lady, of the Agricultural College, differs from that furnished in other institutions. The briefest reply would be: In the respect that it gives that knowledge and skill which will be of most use to her as a woman, and in the further respect that it qualifies her to support herself and husband by practicing some remunerative trade, should she be so unfortunate as to marry a husband who couldn't support her—as a very large number of young ladies do! Seriously, the work of a woman's life is as different from that of a lawyer, as is editing a paper from calculating an eclipse; and in performing this work she uses given branches of knowledge. The course of instruction in this Institution aims to furnish the facts of the several sciences as employed in woman's work, and the "industrials" aim to give her such skill in the more common employments as she is bound to find valuable. In other words, it is directed to the use which woman makes of knowledge, whereas the course of other institutions is not particularly "directed" to anything except that most indefinite of all things "an education," if any body knows what that is.

Alpha Beta Society met in Prof. Whitman's room. This being the middle of the term the following officers were elected: President, Miss Nellie Sawyer; Vice-President, Miss Ella Gale; Secretary, G. H. Fallyer; Treasurer, Miss Ella Child; Marshal, A. A. Stewart. On account of the unusual amount of miscellaneous business the order of debate was passed. There was a fine declamation given by Mr. Griffing, and an interesting essay was read by Miss Gale. Extemporaneous speaking followed. Miss Evans was appointed for an essay; Miss Childs, for select reading; and Mr. McCallum, for a declamation; all to be given at the next meeting. After the reading of minutes the society adjourned.

REPORTERS.

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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, NOVEMBER 6, 1875.

No. 29.

## THE INDUSTRIALIST.

Published Every Saturday,  
BY THE  
PRINTING DEPARTMENT  
OF THE  
KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

### Terms of Subscription.

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A. A. STEWART, Manhattan, Kansas.

### Ozone in Kansas Atmosphere.

[A Paper read by Prof. Wm. K. Kedzie, of the State Agricultural College, before the Kansas Academy of Science, Topeka, Oct. 13th, 1875.]

[Concluded from last week.]

In comparing the results of diverse seasons also we very naturally find its quantity in winter fully twice that in summer. This is accounted for not only by the fact that in the winter season our electrical conditions are much more energetic and intense, but more especially by the circumstance that the greater proportion of the Ozone then produced in the atmosphere remains there undestroyed, the process of oxidation being then nearly at a stand-still and the organic matter of the earth frequently protected by a deposit of snow. For precisely similar reasons we find the reaction for Ozone much stronger at night than during the day. The maximum amount for the entire twenty-four hours is almost invariably just before sunrise; as by the condensation of watery vapor always taking place at that time, the air is freed from its organic impurities. But it is obvious that the amount of Ozone which we can measure in our atmosphere affords not the least indication of the amount which may have been produced there, for it is only possible for us to measure the residuum, that which remains undestroyed by oxidizable matter.

It is to be seriously regretted that the methods for quantitative estimation of Ozone should be so imperfect and so liable to grave error. Numerous methods for such estimations have been devised the greater proportion of them dependent upon its well-known oxidizing power. It is well known that Iodide of Potassium is perfectly unalterable in oxygen gas. Under the action of Ozone, however, it is instantly decomposed, caustic potassa formed and free Iodine liberated. A test paper has hence been constructed in which wine-red litmus paper is impregnated with a solution of Potassium Iodide and exposed to the action of the Ozone of the atmosphere. The extent to which this paper is blued by the action of the caustic potassa produced affords a basis for deter-

mining the amount of atmospheric Ozone present.

For my own uses, however, I have preferred a test of Schonbein's own devising. It is dependent on the well-known property which free Iodine possesses of turning starch an intense blue color; a reaction so delicate that it will detect one part in a million. In the manufacture of the test paper I use the proportion, 1 part of Potassium Iodide to 10 of starch; first, boiling the starch in an excess of 200 parts of distilled water, and, when the mixture is cold, adding the Potassium Iodide. In this, strips of unsized paper are soaked and afterward dried carefully in the dark and in air as absolutely free from impurities as possible. As a basis of comparison I employ a color scale, by which the proportion of Ozone, varying from the merest trace to an abundant presence, is indicated by a series of ten corresponding blue colors, gradually deepening from the first to the tenth. Now, on exposing a slip of this prepared paper to the action of the atmospheric Ozone for a period of twelve hours, free Iodine will become liberated in it to an extent proportionate to the quantity of Ozone in that atmosphere. If the exposed slip be then dipped in water a blue color from the resulting action of the Iodine upon the starch will then be produced, and by comparing this with our color scale the number of the corresponding color may then be recorded as the result of the observation. Thus a basis is formed by which observers in different countries are enabled by the use of these numbers to compare the results of their investigations. As a necessary precaution the test paper must be preserved in the dark, as the action of intense light itself will in time decompose the Potassium Iodide. When exposed also it must be carefully protected from violent wind, from direct sun-light or even from directly reflected sun-light. This I find is easiest to accomplish by suspending the slip in a plain wooden box without bottom and drilled abundantly with holes to allow a free access of air.

Employing this test of Schonbein's as a basis, the observations upon the quantity of Ozone which for the year past have been in progress at the Agricultural College have been most interesting and gratifying. They have established beyond a doubt the existence of an abundance of Ozone in the atmosphere of Kansas. While such observations can of course prove of value only when extended through a long period of years, results of great interest have already been obtained. Two series of daily observations have been made. First, a day observation, the result obtained by exposing the paper from 7 A. M. to 2 P. M. Second, a night observation, the result of which is best obtained by an exposure from 9 P. M. to 7 A. M. The relations of the two are well shown in the means of the observations for the month of January. The average of the day records for this month was 6.03; that of the night, 7.50. In four observations for the night records of January, the scale gave the maximum number 10. During the succeeding

months these numbers slowly decrease. For the month of May, for instance, the daily average has become 5; for that of July it has fallen to 3.53; in August, to 3.77; while in September it has again risen to 4.75; and thus it will go on increasing until the succeeding January. Moreover, during the summer months the difference between the day and night observations becomes less and less, those of the day sometimes even exceeding those of the night.

Probably one of the most extensive series of observations of this character in the United States has been that conducted by the Chemical Department of the State Agricultural College of Michigan, and I have been much interested in noticing by comparison how uniformly the results obtained in Kansas exceed those of Michigan. I here append a table giving the means of the day and night observations in the two States for the first eight months, from January to August inclusive, of the year 1875:

MONTHS.	Kansas.		Michigan.	
	Day.	Night.	Day.	Night.
January.....	6.03	7.50	5.52	5.93
February.....	5.66	7.82	5.78	6.57
March.....	5.36	5.88	5.70	6.19
April.....	5.26	6.25	3.73	3.96
May.....	5.00	5.00	3.19	4.03
June.....	6.00	6.00	3.96	3.66
July.....	3.53	3.28	3.52	3.22
August.....	3.77	4.00	3.68	3.68

Moreover, this element of Ozone in our atmosphere, while of itself most vitally important, is above all valuable as establishing a pure atmosphere, one practically free from organic effluvia, the acknowledged source of malarial disorders.

But it is obviously entirely beyond either the limits or province of this paper to attempt any consideration of the complex relations of Ozone to health and disease. At some future meeting of this Academy it may perhaps be my privilege to attempt some such discussion. Probably no problem could be mentioned in which the opinions maintained by prominent scientists have been so discordant and so chaotically diverse. By one class of disputants the very possibility is denied of any connection between the presence of Ozone and the prevalence or absence of certain types of disease. On the other hand, by another party equally eminent it is maintained that the relations of this element to sanitary conditions are of most vital and paramount importance; and that it only remains for us to reveal them by careful research. Leading spirits of this latter party have expressed a firm belief in the near proximity of a period of enlightenment, when in addition to piping our dwelling houses for water and gas we shall not only add an additional pipe for carbonic acid under pressure to shield us from the dangers of conflagration, but above all a fourth tube for regulating our domestic atmosphere by a well directed stream of Ozone. Indeed it is only recently that a stock company was organized to this end in the city of Chicago, having as its consulting oracle a well-known western chemist, and

[Continued on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, NOVEMBER 6, 1875.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

JUDGE BREWER, of the Supreme Court, begins his lectures on Practical Law, at the Agricultural College, Tuesday, November 9.

## Why Agricultural Colleges Have Failed.

Why must industrial education under the old college system be a failure? It is evident that every effort made to incorporate an industrial course upon the old college system has failed. And hence thousands, without stopping to study the conditions of the experiment, have drawn the broad conclusion that industrial education itself must fail. The end is too important, and the interests involved too vast, as affecting the right of the great masses of society, to be thus flippantly pushed aside. There is an education for the millions better than our common schools offer to-day, and while we may not know just how or where it will come, we believe we may look for it in the direction of an industrial education. There are good reasons why these combined efforts have and always will prove abortive.

The antagonistic position of the two classes of students will always be felt; and hence this will affect in some degree the result. This antagonism has always been confessed, and can hardly be avoided. Then, again, there is a decided want of sympathy with the practical side of science felt by the great mass of our teachers. Science with them is pure science, and hitherto most teachers have been unwilling to listen to the growing demand of the public for the practical side of science. It is possible that these objections might be overcome, and the "lion and the lamb" of personal antagonism lie down together. And teachers who shall come to us upon the practical side of science may in the course of time be made, if not now to be found. But there is an antagonism inherent between the two systems of instruction which will render it utterly impossible to combine the two successfully under one direction. For there is a divergence in the two courses, growing out of the nature of the pursuits, which gives them distinctive characteristics. That is, we find in the average college course a special adaptation to professional life which demands a thorough intellectual drill and pure aesthetic culture.

The industrial course should put the practical foremost in giving prominence to the linear studies, i. e., those sciences involving the study of the line. The professional man can have no interest in the line practically, but the industrialist makes the line

prominent at every step. As for example, the carpenter spends his life in the handling of lines. The same is true of the artist, though his study of lines takes a different direction. The professional man has really nothing to do with lines, unless it may be indirectly. Hence, while one class study science as pure science to gain a certain end, the other approaches the mathematical and natural sciences from the linear or practical side to gain a different and to him a more important end. Hence, the two classes will not and cannot from the nature of things travel along the same road.—[Prof. Gale.

## Sheep Husbandry.

We have seized upon the following correspondence for the benefit of our readers:

TOPEKA, Kas., Oct. 30, 1875.

Prof. E. M. Shelton,

Dear Sir:—Will you have the kindness to give this Board the benefit of your personal experience in sheep husbandry in your county? What are the best grades and crosses for Kansas? Have there been flocks brought into your county since the first of March? If so, give size of flocks, breeds, and name and post-office address of owner or person having charge of them. What are the peculiar advantages and disadvantages of Kansas for sheep-raising? State what is necessary in food, shelter, protection, etc., to secure success?

The object of these inquiries is to obtain reliable information for the Fourth Annual Report of the Board, which is now being compiled. Yours Respectfully,

ALFRED GRAY,

Sec'y State Board of Agriculture.

MANHATTAN, Kas., Nov. 3, 1875.

Hon. Alfred Gray,

Dear Sir:—I am very glad to do anything within my power for the advancement of sheep husbandry in this State, for I believe that Kansas possesses certain natural advantages which, when our people are properly educated, will make it one of the "great wool-growing States." I say "when our people are properly educated," for wool-growing is a different matter from growing corn or wheat, or herding cattle; it demands a good degree of natural taste and special knowledge of the work and the difficulties to be encountered in it. The considerable successes, no less than the disastrous failures that have been made in wool-growing in this part of the State, will I think bear me out in this statement. Without attempting to reply to your questions in the order in which they are propounded, I will endeavor to answer as fully as seems suited to your purpose.

First among the "peculiar advantages" possessed by Kansas in this matter of sheep husbandry, must be mentioned its climate. It is well known both in Colorado and Kansas that the dry atmosphere and soil of these regions are not only a preventive but a specific of some of the worst complaints to which sheep are subject, notably foot-rot and catarrh. I am told that the attacks of the oestrus ovis are also unknown. The great extent of unoccupied "range" covered

with abundant grasses, found in every township, the abundance of excellent water and the exceeding cheapness of hay for winter forage, must also be placed among the advantages possessed by our State in this matter.

But sheep husbandry as practiced East, namely, as part of a system of farm management, is hardly possible in Kansas except in rare cases. Here, sheep must be kept in considerable herds, with the herdsman constantly in attendance, and the range must not be limited. The reasons for this are: 1. The abundance of dogs, wolves and coyotes. 2. Expense of fencing. 3. And most important, the general absence of "tame grasses" in Kansas, and the impossibility of pasturing closely the native grasses without destroying them.

Of all the breeds of sheep the merinos and its grades are best adapted to the wants of Kansas. In Colorado and western Kansas the favorite sheep, so far as I have observed, are the cross-bred progeny of Mexican and Missouri ewes and merino rams. The whole argument, so far as breed is concerned, may be briefly stated thus: The merinos have the gregarious instinct more perfectly developed than any other breed. It is claimed that the herdsman can handle with the same ease three times as many merino as of English sheep. Moreover, the merinos are the hardiest of all sheep, having anything like their value, when once upon their feet. In the young state the pure merino is much more delicate than the coarse-wool. The large amount and superior quality of the wool furnished by the merino is another argument greatly in their favor. The offspring of the "natives" of the East, or the common Missouri ewes and merino rams, will unquestionably give the largest satisfaction in Kansas.

Sheep introduced from the East should reach here as soon as possible after shearing, in order that they may become accustomed to our grasses while they are juicy and most palatable. The commonest of all mistakes, and the prime cause of nine-tenths of the failures with sheep in Kansas, is neglect in this matter. The sheep as purchased of eastern farmers are generally "broken-mouthed," worn out specimens; these, arriving in the State late in the season, weary and exhausted from the long journey, are turned loose upon the prairies to feed upon the dried grass. It is not surprising that under such circumstances whole flocks frequently perish the first winter after their arrival.

In this latitude sheep should receive the protection of good sheds during the winter months, and the grass around the winter sheds should be allowed to attain as heavy growth as possible so as to furnish feed during the fine weather of winter. To best accomplish this it will generally be found desirable to have the summer "corral" and winter sheds a considerable distance apart. For young and healthy sheep, hay will generally be found a sufficient winter food, but aged sheep and lambs should have a little grain every day, and will pay well for such extra care.

At the present time there are not far from two thousand sheep in Riley county, and of these twelve hundred have been brought into the county since the first of March. Of the sheep thus lately introduced, J. H. Lee owns seven hundred and W. H. Fagley, two hundred head. The post-office address of both is Manhattan, Kansas.

Respectfully Yours,

E. M. SHELTON.



# THE INDUSTRIALIST.

SATURDAY, NOVEMBER 6, 1875.

## Meteorology.

For the week ending Nov. 3, 1875. Condensed by Prof. Kedzie, for the Industrialist, from the records of the Chemical Department:

DAY OF WEEK.	Thermometer.			Bar.	Rainfall in in's.
	Max	Min.	Me'n	M'n H't.	
Thursday.....	69°	39°	55° 2/3	28.37	
Friday.....	45	23	38 1/2	28.61	
Saturday.....	46	25	33 2/3	29.00	
Sunday.....	69	30	48 1/2	28.76	
Monday.....	69	36	53 2/3	28.59	
Tuesday.....	65	38	51 1/2	28.46	
Wednesday.....	50	29	43 2/3	28.71	

Average temperature for the week, 46° 38.  
Range of " " " 46°.  
Average barometer " " 28.64.  
Per cent of cloudiness " " 49.

Gents' collars, largest stock and lowest prices, at the Bazaar. 26

Services at the chapel to-morrow at 3:30 P. M., by President Anderson.

Nov. 4.—One hundred and seventy-three students have been enrolled this term.

The Executive Committee is now in session, auditing accounts against the College and transacting such other business as requires its attention.

Until further notice the Bazaar will retail music books and sheet music at wholesale prices, and will sell pianos at \$100 less than Kansas City prices. 26

Good board at Boarding House for \$2.75 per week. Rooms furnished with stove, bedstead, chair and table. Girls will be conveyed to and from College when weather is bad. A. TODD.

Among the visitors at the College this week we notice Frank Landon, a former student. Frank has been teaching school, and is down here on a visit while his pupils are enjoying a short vacation.

We are again under obligations to the Hon. W. A. Phillips for a valuable contribution to the College library. This time it is the Seventh Annual Report of the Geological Survey of Territories, by Dr. F. V. Hayden.

During the week the following students have been received: Frank C. Burroughs, Riley county; Walter C. Foster, Osborne, Osborne county; Albert Sternberg and Charles H. Sternberg, Fort Harker, Ellsworth county.

Kansas miles are usually longer than the true mile for the reason that in estimating by section lines no account is made of the curves or hills and hollows of the traveled road. The odometer is an instrument which records the number of revolutions made by a wheel, and if the circumference of the wheel is known it is an easy matter to determine the number of feet actually traveled by the wagon. The distance from Junction City to the new College buildings, as shown by the odometer is as follows, the starting point being Col. J. B. Anderson's residence.

	Miles.
Junction City.....	0.00
Fort Riley, guard house.....	4.25
Three Mile Creek.....	3.49
Ogden.....	2.30
Eureka hill, top.....	6.12
Ag'l College via College Hill.....	4.64
	20.80

We intend to measure the distance by the Manhattan road from the point where the College Hill road leaves it, and give the distance from Junction to Manhattan by the regular route.

The Alpha Beta Society held its regular meeting last Friday afternoon, Oct. 29th. Considering the drizzling rain there were a goodly number present. A challenge was drawn up by a committee appointed for that purpose for a public debate with the Diognothian Society. This was conveyed to the latter society and was accepted by them, so we shall soon have a joint debate of the two societies. There was an interesting debate on the question "Should

the proposed amendments to the Constitution of Kansas be adopted?" Decision in favor of affirmative. The society then engaged in extemporaneous speaking. By an arrangement made at last meeting an article was to be read and the members were to speak on the subject thus brought forward. Mr. Failyer read an article and introduced the subject "Capital Punishment." A lively discussion ensued, participated in by nearly all the members.

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The Piano, Organ and Guitar.  
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OF THE

Kansas State Agricultural College.

Organized, Oct. 12th, 1868; chartered, Jan. 1871.

Motto: "Labor Omnia Vincit."

Meets Saturday evening each week.

L. B. ROGERS, President.  
F. O. HOYT, Sec'y.

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Four miles of line, twenty instruments, and daily instruction and drill, by an experienced operator, in sending, receiving and office accounts, reports and book-keeping. No charge, except for blanks, say \$3. Special course of lectures, by Prof. Kedzie, on electricity, battery, etc.

## ALPHA BETA Literary Society

OF THE

Kas. State Agricultural College.

Organized, Oct. 17, 1868. Chartered, Dec. 26, 1870.

The society holds its sessions in the college building every Friday afternoon at two o'clock.

MISS NELLIE SAWYER, Pres.  
G. H. FAILEYER, Sec'y.

E. B. Purcell, Banker. Jno. W. Webb, Cashier.  
Geo. S. Green, Attorney.

## MANHATTAN BANK,

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Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission. 17

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THE

## PRINTING DEPARTMENT

is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer.

Besides regular class instruction in printing, the weekly publication of the Industrialist by the Department furnishes advanced students the requisite drill in newspaper work.

Dr. Patee.

11-20

## INJURIOUS INSECTS.

Special attention paid to the habits and best methods of preventing or destroying Insects inimical to the Kansas Farmer.



[Continued from first page.]

for its avowed object the manufacture, upon an extended scale, of Ozone for the purification of the private residences, public buildings and sluice-ways and sewers of that most odorous city. Unfortunately, however, the efforts of this company prematurely terminated in a prospectus soliciting purchasers of stock! Enthusiasts in this matter must bear in mind that the presence of an excess of this Ozone is scarcely to be less deplored than its utter absence. It is well known that when existing in the atmosphere in too great an abundance it occasions attacks of bronchitis and other bronchial disorders. An explanation has been thus suggested by medical authorities of the prevalence of these diseases, in certain seasons, in northern Minnesota.

What is above all now needed is a general series of careful, patient and conscientious observations extending through long periods of years. It is only from such a foundation of well authenticated facts that we can hope to deduce results of any importance. The investigators of America are now rapidly awakening to the importance of this work. Earnest observers are beginning thorough records in various portions of the United States. It has been my object to call the attention of the gentlemen of this Academy to the importance of organizing a series of careful records of the Ozonic phenomena of Kansas. To any one disposed to assist in this work I shall take pleasure in furnishing color scales, Iodized paper and record blanks, simply requesting that a copy of these be returned to me at the close of each month for tabulation.

The solution of this question is destined to become from a chemical standpoint one of the most important problems of the century before us; but a problem whose solution can only be purchased by long years of untiring study.

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Keeps constantly on hand and for sale, specimens of  
**SHORTHORN, LANCASHIRE,**  
**JERSEY, BERKSHIRE,**  
**AND**  
**ESSEX SWINE. DEVON CATTLE.**

We offer for sale three fine yearling bull calves, as follows:  
One Devon bull, imported from Canada. Price, \$100.

These prices will place this stock within the reach of Kansas farmers and stock men.

Address, **E. M. SHELTON, Sup't Farm.**

**KANSAS STATE Agricultural College.**

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**EDUCATION**  
FOR THE  
Farm, Orchard, Shop and Store.  
**Tuition Absolutely Free!**

The fall term began Thursday, August 26, 1875.

**Habits of Plants.**  
Thorough Instruction in  
**Vegetable Physiology.**

Tracing the development of the root, stem; bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds.

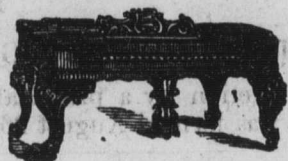
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Manures,  
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THE NURSERY, ORCHARD,  
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The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive.

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The Laboratories are fully furnished with the best philosophical apparatus and the largest assortment of chemical apparatus and reagents west of the Alleghanies, all of which is for the use of the students.

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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

Vol. 1.

MANHATTAN, KANSAS, SATURDAY, NOVEMBER 13, 1875.

No. 30.

## THE INDUSTRIALIST.

Published Every Saturday,  
BY THE  
PRINTING DEPARTMENT  
OF THE  
KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

### Terms of Subscription.

SEVENTY-FIVE CENTS per year, postage prepaid. Ten cents per month, postage prepaid. Single copies, delivered at office, two cents each; by mail, three cents. Payment absolutely in advance! Paper stopped at expiration of subscription.

### ADVERTISING RATES.

#### CASH DOWN!

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Advertisements of less than ten words to be counted as having ten words.

Displayed advertisements at ten cents per nonpareil line of space occupied. Address,

A. A. STEWART, Manhattan, Kansas.

### Education in the Grange.

[A Paper read by F. G. Adams before Capital Grange, Topeka, Kansas, October 9th, 1875, and ordered to be published in the Kansas Farmer.]

From the Kansas Farmer.

Speaking in very general terms, the benefits to be derived from the organization of Patrons of Husbandry have been declared three-fold, namely: social, educational and economical.

The work of the grange can not be said to be, at this early day, very well organized for the accomplishment of the greatest good in respect to either of these three objects. Still, as to social advantages, the benefits received in many ways are obvious to all. For the accomplishment of economical benefits the greatest energies of the order are at the present time being directed, with practical results of the most promising character.

In education much is already being done. The ordinary work of the order, the formal work, the business routine, and all incidental discussions, all tend to educate; while in many granges libraries are being established, essays are read, addresses delivered, and discussions had upon practical topics relating to the farmer's work and that of his household.

But it is in reference to a proposed systematic educational work in the grange, in the nature of grange schools, embracing methodical courses of instruction, that I now call your attention. I mean the adoption of courses of reading and instruction which shall engage the attention and bring into active study the younger members of the grange, and the more studious of older years; all those who shall have the ambition and desire to make themselves masters of practical agriculture, and in some measure at least of scientific agriculture. The farmer's winter days and winter evenings afford opportunity for reading and mental labor. If prompted and stimulated to pursue methodical studies by the aid of lectures, the guidance of instructors, and the intercourse of companionship, study would find attractions and helps which would dispel monotony and cause such work to go on with zest and enjoyment.

There are branches of science, bearing

close relation to the farmer's work, which it behooves him to know something of, and of which he must know something to entitle him to that standing among men which gains a proper respect and gives dignity to his profession. More especially is such knowledge necessary to enable the farmer to pursue the practical work of his occupation to the best economical results. I refer to such subjects as agricultural chemistry, geology, botany, entomology, book-keeping, and, I might add, constitutional law and the laws of taxes and finance.

Agricultural education has received great acceleration during the past few years, and in some measure has been brought into simple method. Schools for the education of farmers' sons and daughters in their business of life have been established in almost every country, and in almost every State in this Union. The practical sciences are in these schools receiving such adjustment and arrangement as is intended to adapt their study to the wants and comprehension of the farmer. Our own State has one such school, endowed by the nation for the benefit of the farmers of the whole State. But its direct advantages have not as yet been reached by the adult farmers, and are in fact within the reach of but very few of the children of the forty thousand members of the order of Patrons of Husbandry within the State. The Patrons of Husbandry in Kansas should consider the State Agricultural College their institution; and they should see that, in some measure, it be made to enure to the advantage of all, and not be left to benefit the one in five thousand of their sons and daughters who may be enabled to become pupils within its walls. The Patrons should inquire what there is of science and practical truth which has been eliminated for their advantage at Manhattan and elsewhere; and they should bring it into the grange and study and appropriate it.

As a step in the direction of bringing the advantages of the agricultural colleges down to the people at large, so that all may receive some benefit from the expenditure made in their support, let us organize our classes and go to work. Let us adopt so much of the courses of study devised and digested in these colleges as we can handle here; and in our organized classes let us teach our children, and ourselves learn, in a practical way, those elements of science and information needful for us in the intelligent pursuit of a worthy employment.

Such courses are within reach. Especially, situated as is Capital Grange, we have the means to secure very thorough instruction in most, if not all, of these practical branches of education. Capital Grange has within its own membership those who, though they may not be experienced teachers, yet are possessed of ample learning and capacity to become competent teachers. This is true in respect to some of the subjects I have mentioned, if not all. We are, here, within reach of teachers of natural science in colleges and high schools, whose instructors we can make our instructors, being amply competent ourselves to pre-

scribe the course of instruction, and to dictate the incorporation into it of so much of any given subject as may be applicable to the ends we have in view, the acquirement of knowledge pertaining to our occupation and of general use to us as citizens. We are, in fact, within reach of the teachers of the Agricultural College itself; if not now, in the time shortly to come. For I am no prophet when I tell you the time is not far distant in the future when the higher institutions of learning in the State—the Agricultural College, the University and the Normal Schools—will be required to send out instructors to every neighborhood in the State to teach us and our children, in our own halls and school houses, the elements of agricultural science. This is only what is already in full practice in those countries in Europe whence we have borrowed almost our entire system of instruction, in all our schools. If we go back over the history of our schools we shall see that almost every step forward has come from promptings wafted to us from over the sea. We, in America, have been too busy in material enterprise to study plans of education. Never, till the organization of the grange, was there an institution established in this country having for its object the promotion of the welfare of a majority of the people, and having as one of its leading aims the education of the people whom it is intended to benefit. Ours is the first voluntary organization of a great mass of the people of this country in a grand educational movement.

In Germany there are, at the present time, more than 150 agricultural colleges. Besides, there are a great many schools of a lower order where instruction is given in special branches of learning of a practical character, for the education of farmers' sons in scientific agriculture, in its practical application to the farmer's work. In addition to this, a large number of the graduates of the higher agricultural colleges are specially commissioned as traveling lecturers, paid by the government to instruct farmers' classes in more remote districts; to instruct adult farmers and young persons unable to attend agricultural colleges. In Austria, Switzerland and Italy a like system is in full operation. And all this supported by the government. Kingcraft looks after the education of the bone and muscle of the empire. It is not in the nature of things that the farmers of America, having taken their destiny into their own hands, and having the power to mould the machinery of education into right working capacity, will not in brief time so shape it as that it shall accomplish as much for the right instruction of the agricultural class as is done for their subjects by the monarchical powers of Europe.

Already, the people of Illinois, in imitation of European education, have made these sciences, kindred to agriculture, branches of common school education, and have declared that no applicant shall receive a first-class certificate as teacher in the common schools who is not qualified to teach these sciences. The Normal schools and

[Continued on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, NOVEMBER 13, 1875.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## Judge D. J. Brewer.

The aim of the Agricultural College is to prepare its students for the actual work of some industrial vocation. Every man or woman successfully engaged in business must know the exact line which separates his rights from those of others, that he may not be defrauded and that he may not defraud. As a renter or owner of real estate, as a workman or employer, as a producer or exchanger, as a passenger or carrier, as a citizen, a minor, adult, husband, parent, neighbor, he finds himself placed in constantly varying relations to the question of what is and what is not the legal rule of equity or justice. And much of his final success will depend upon his ability to obey these multiform rules, still further complicated as they are by the varying practice in different States. In addition to these difficulties, which are common to all save lawyers, is the one arising from the fact that students of farming or trades have not the time to learn the technical terms of lawyers or the distinctive principles of law as a science. Whatever presentation is made to them must be so limited in time as greatly to embarrass the teacher, must be made in every-day English, and must be the condensed common sense of law as daily used in industrial life.

We regard the Board of Regents as exceedingly happy in their selection of Associate Justice Brewer for this difficult task. His natural power, fine scholarship, extensive practice, and close application as an exact and comprehensive jurist on the Supreme bench give him peculiar qualifications for saying just what is and what is not Kansas law. And certainly he is more than happy in the ability with which so broad and complicated a theme as "Practical Law" is presented to our students, in a language that no one can fail to understand, with a simplicity of arrangement that is the highest exercise of the clearest logic, and a pointedness and fitness of illustration that compel the attention of the girl of fourteen as well as that of the professor of forty. Talking law, in law language, to an audience of trained lawyers is a greatly different thing from telling students of agriculture or trades what, in their future vocation, they can or cannot legally do. There is just the difference between law as a science and "Practical Law" that there is between chemistry and botany as sciences and Practical Agriculture which successful farmers follow. And in the difficult experiment of distinguishing and presenting Practical Law, Judge Brewer is, as in other things, a most

## List of Studies.

Every student is marked daily, on a scale of one hundred, in each recitation, industrial as well as literary. We propose to send a statement to the parent or guardian of the monthly standing of every pupil. In so doing much labor is saved by writing simply the number of the study, as given in the following list, rather than the name of the study. When there are say a thousand items to be mentioned, it is a good deal easier to write "2" than "Agricultural Chemistry." And we take this method of notifying parents: first, that a report will be regularly mailed about the 12th of the month, and, second, that when they are informed that "A—B—, during the last month, has graded as follows: In study number 13, 94; ditto 47, 98; ditto 14, 95; ditto 20, 90;" it means that his standing in Book-keeping is 94; in English Structure, 98; in Botany, 95; and in Carpentry, 90:

1 Assaying.	46 English Literature.	88 Photography, 1st year.
2 Agricultural Chemistry.	47 " Structure.	89 " 2d year.
3 Algebra.	48 Engraving, 1st year.	90 Physical Geography.
4 Analytical Chemistry.	49 " 2d year.	91 Physics.
5 " Geometry.	50 " 3d year.	92 Physiology.
6 Ancient History.	51 " 4th year.	93 Political Economy.
7 Arithmetic.	52 Entomology.	94 Practical Agricul., 1st yr.
8 Astronomy.	53 Farm Economy.	95 " " 2d yr.
9 Blacksmithing, 1st year.	54 French, 1st year.	96 " Geometry.
10 " 2d year.	55 " 2d year.	97 " Horticul., 1st yr.
11 " 3d year.	56 Gardening.	98 " " 2d yr.
13 Book Keeping.	57 Geography.	99 " Law.
14 Botany.	58 Geology.	100 Printing, 1st year.
15 Butler's Analogy.	59 Geometry.	101 " 2d year.
16 Cabinet Making, 1st year.	60 German, 1st year.	102 " 3d year.
17 " " 2d year.	61 " 2d year.	103 " 4th year.
18 " " 3d year.	62 Harness Making, 1st year.	104 Reading.
19 " " 4th year.	63 " " 2d year.	105 Rhetoric.
20 Carpentry, 1st year.	64 History of Civilization.	106 Scroll Sawing, 1st year.
21 " 2d year.	65 Household Chemistry.	107 " " 2d year.
22 " 3d year.	66 " Economy.	110 Sewing, Dress-mak'g, 1 yr.
23 " 4th year.	67 Inorganic Chemistry.	111 " Dress-mak'g, 2 yr.
24 Carving, 1st year.	68 Instrumental Music.	112 " Millinery, 3d yr.
25 " 2d year.	69 Landscape Gardening.	113 " " 4th yr.
26 " 3d year.	70 Latin, 1st year.	114 Special Hygiene.
27 " 4th year.	71 " 2d year.	115 Spelling.
28 Chemical Physics.	72 Logic.	116 Stone Cutting, 1st year.
29 Commercial Law.	73 Mechanics.	117 " " 2d year.
30 Comparative Physiology.	74 Mental Philosophy.	118 " " 3d year.
31 Composition.	75 Metallurgy.	120 Study of Words.
32 Constitution U. S.	76 Meteorology.	121 Surveying.
33 Cookery, 1st year.	77 Mineralogy.	122 Telegraphy, 1st year.
34 " 2d year.	78 Modern History.	123 " 2d year.
37 Drawing, 1st year.	79 Moral Philosophy.	124 Turning, 1st year.
38 " 2d year.	80 Organic Chemistry.	125 " 2d year.
39 " 3d year.	81 Painting, 1st year.	128 U. S. History.
40 " 4th year.	82 " 2d year.	129 Wagon Making, 1st year.
41 Drill in Arithmetic.	83 " 3d year.	130 " " 2d year.
42 " " English.	84 " 4th year.	131 " " 3d year.
43 Elocution.	85 Pharmaceutical Chem'y.	133 Penmanship, 1st year.
44 Engineering.	86 Phonography, 1st year.	134 " 2d year.
45 English Grammar.	87 " 2d year.	135 Zoology.

decided success. Whatever may be said or thought of "lawyers," the farmers of Kansas are under obligations to this gentleman for his gratuitous and valuable instruction to the students of the Agricultural College.

And if, by getting the right man, it is possible to present successfully so complicated and vital a science as law, then certainly the practical facts of any other science can be presented, in every-day English, by the right man. The result of Judge Brewer's experiment in this direction has greatly strengthened our conviction that there is a deal of moonshine and slosh in the allegation that the "sciences" cannot be taught save in technical terms and with an overload of details that are of no practical value to the industrial classes. We only wish that every boy and girl in the State, as well as every business man or woman, could hear this course of lectures on "Practical Law."

## "The Annals of Kansas."

A circular from the publisher, Geo. W. Martin, informs us that this invaluable book will be ready for delivery on or before Nov. 25th, and will be sent to any one, postage paid, on receipt of the price, \$5.00. We published, a few days since, an article from the Junction City Union giving a synopsis of its contents and a statement of the scope and character of the work. State Auditor Wilder, the author, is admirably fitted for the compilation and preparation of such a work, and he has gathered together and arranged in systematic order a great mass of statistics and facts concerning Kansas. The book contains 690 pages, having double the amount of reading matter contained in Sherman's Memoirs, and three times as much as the thirteenth volume Kansas Supreme Court Reports. The publisher very appropriately says that it is "a Kansas Dictionary." No Kansas man can well afford to keep house or office without this book, and we predict that it will have a large sale.—[Atchison Champion.]



# THE INDUSTRIALIST.

SATURDAY, NOVEMBER 13, 1875.

## Meteorology.

For the week ending Nov. 10, 1875. Condensed by Prof. Kedzie, for the Industrialist, from the records of the Chemical Department:

DAY OF WEEK.	Thermometer.			Bar.	Rainfall in in's.
	Max	Min.	Me'n	M'n H't.	
Thursday.....	60°	34°	43°	28.83	.30
Friday.....	56	28	45 1/3	28.88	
Saturday.....	60	29	45 2/3	28.69	
Sunday.....	64	33	50	28.70	
Monday.....	49	24	46	28.93	
Tuesday.....	49	22	35 1/3	29.02	
Wednesday.....	60	24	44 1/3	28.70	
Average temperature for the week, 44° 23.					
Range of " " " 42°.					
Average barometer " " 28.81.					
Per cent of cloudiness " " 67.					
Rain-fall " " .30.					

Chapel service Sunday 3:30 P. M., by J. A. Anderson.

Nov. 11.—One hundred and seventy-four students enrolled this term.

Mr. Webster Harmon, of Valley Falls, Jefferson county, entered College this week.

The rain last Monday was welcomed by all interested in the fall crops, as everybody is.

The Meteorological department rejoiced in an earthquake and snow-storm this week.

If any family in Manhattan or near the College wishes to board a young man for "doing the chores," one of our students would like to know it. Address W. C. Stewart, Sup't Telegraph Department.

If any newspaper published in Kansas does not receive the INDUSTRIALIST we would like to be informed of that fact. It is difficult to keep pace with all the changes, and some of the newer papers may not be on our list.

Remember the spelling school next Thursday evening at the Congregational church. Admission ten cents, to help pay for the new organ. Mr. Sam. Kimble has offered, as a prize to the best speller, a copy of either Shakspeare, Don Quixote or Scott. A general good time is expected.

At Judge Brewer's lectures this week the legal fraternity of Manhattan was represented by Sam'l Kimble, Jr. and Geo. C. Wilder, the ladies by Mrs. Wilder and Mrs. Adams; the citizens by Prof. Lee, Major Adams, and Dr. Clarke; Boston, Mass., by B. Sprague. If the weather is pleasant next week, a larger delegation will probably be on hand and certainly will be welcomed.

The Alpha Beta Society met on Friday afternoon. The President and Vice-President were examined and installed; the other officers being absent will be installed at next meeting. An essay was read by Miss Evans. The speakers for a public debate were selected, being Messrs. Failyer, Grover, Quinby and Misses Gale and Sawyer. They were empowered to meet the speakers from the Diogenesian Society and arrange for the debate. Extemporaneous speaking was passed. After reading of the minutes the society adjourned.

With all the work which our Printing Department has constantly to perform, the publication of a pamphlet is necessarily a slow process. We have in press, that is, a lard press, the folded sheets of the oration delivered before the Agricultural College at the last Commencement by Noble L. Prentiss, on the subject "The World a School." Within ten days the stitching will be done, and the pamphlet ready for distribution. The attention which this address has received, and the interest which it has aroused in favor of practical education, confirm the opinion of those who were so fortunate as to hear it that it was one of the most remarkable and forcible discussions of education which has been made anywhere. It will be sent to our readers and exchanges and to any others who will forward us a request to that effect.

The INDUSTRIALIST is published in the interest, but not at the expense, of the Agricultural College. All expenses, outside of composition, which the subscription and advertising list does not meet, are defrayed by two gentlemen. The income is not equal to the outlay, and we want subscribers or advertisers. Besides giving information respecting the current work of the College, its columns furnish valuable articles on the various topics of practical agriculture, horticulture, chemistry, entomology and education, which are certainly worth seventy-five cents a year. The paper reaches every county in the State, and representative men in agriculture and education. It is probably the only weekly which goes to every State officer and county superintendent. As a consequence it presents peculiar advantages to advertisers. Our circulation is increasing, but so are the bills; and if our friends will only send us enough subscribers or "ads" to meet the latter we won't bore them further.

The first of Judge Brewer's course of lectures on Practical Law was delivered on Wednesday at the fifth hour in the chapel. The original intention was to form the class of advanced students only, but so many of the others asked the privilege of listening that on Thursday the usual recitations were suspended at the second hour, and on Friday at the first hour, when all attended. A detailed report of the lectures would occupy more space than these columns afford. After stating that his object was to present the rules of Kansas law as valuable to business men and women, and showing the relations of the common law to our practice, the Judge explained most clearly and illustrated most admirably the subject of "Contracts;" the different kinds; parties, who can make, and under what conditions; consideration, difference between a "good" and a "valuable" consideration, illegal considerations; assent or agreement of parties; subject matter of contracts; specific contracts; what constitutes a sale of personal property, with the exceptions; delivery; warranty; payment; and interest. Technical terms, except where absolutely necessary, were ingeniously avoided; the cases supposed were just those which every farmer or mechanic meets in daily life, and the reason for the given rule was so simply stated that the whole thing seemed to be just an application of common sense to daily business,—and we are frank to say that never before did the article of law strike us as abounding in the aforesaid quality, while hereafter we shall entertain a clearer realization of the difference between pettifogging technicalities and genuine justice.

The lectures will be continued next Tuesday at 10:20 A. M.; Wednesday, 11:10; Thursday, at 12 M.; and Friday, at 8:40 A. M.; also on the same days during the following week.

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11-20

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GEO. W. MARTIN, Publisher.

Topeka, Nov. 10th, 1875.

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[Continued from first page.]

high schools of that State, now turn out none but such teachers; while, all over the State, unscientific teachers are at a discount. The operation of this law has brought the natural sciences into a large proportion of the schools in most of the counties, and, as a consequence, as testified by the school superintendents, a zeal and interest has been given to the educational work, on the part of both teachers and pupils, never known before. This step in advance in educational work in Illinois grew out of the farmers' movement in that State.

In view of all that I see bearing upon this subject, I am free to declare it my opinion that the highest mission of the Patrons of Husbandry is to be that of working a reformation in the educational system of the country. Our common schools are being conducted as if our children were being fitted in them for the learned professions, instead of being educated to become farmers and farmers' wives; as if they were to be lawyers, doctors and clergymen, instead of tillers of the soil, or workers in the shops of mechanics and manufacturers; while the fact proves that ninety-seven out of every hundred go out of the schools to engage in these occupations of industry.

In the plan of education which must take the place of the present, while our children shall have given them a practical education in the elements of numbers and general geography, shall be taught so much of English grammar as will enable them to speak and write the English language correctly, and be instructed in other subjects generally useful; they will also be taught something in the direction of fitting them for their life work. Such comparatively useless labor as is now expended in forcing abstract mathematics and abstruse grammatical distinctions, and other work intended more for mental discipline than for use, will be abolished; and, substituted for such abstractions, will be education in the natural sciences and in their application to agriculture and the mechanic arts. Farmers' children will be taught something concerning the nature and composition of the soil which they are to till, and of its adaptation to the growing of this food plant or that. They will be taught something of the formation of the rocks with which they build, and of the great system of rocks with which God has constructed the basis upon which the soil rests; systems, too, which, through the various changes which the forces of nature have wrought upon their substance, have contributed to and in a great measure make up the composition of the soil itself. The farmers' children will have unfolded to them the subtle laws by which the plants they are to cultivate draw their sustenance from the mineral kingdom, and create the food upon which man and animals live. They will be taught and led to love to investigate nature's works around them. God himself has implanted a love of investigation in the natural mind. It is because their teachers and we, their parents, are ignorant of the way to direct their youthful searchings and nature's teachings that our children do not grow up in continued research, and become very masters of the sciences connected with agriculture; the materials for the study of which are everywhere spread out before them from their earliest existence.

In suggesting, then, the undertaking of systematic educational work in the grange, embracing brief studies in the natural sciences as related to agriculture, I see far

more to grow out of such a movement, than the immediate good which may result to the members of the grange who may engage in such studies. But there can be no question that very appreciable present advantages may be gained by members who shall engage in such educational work, in classes organized by the grange. I present the subject for the consideration of Capital Grange, with the hope that the suggestion will meet with favor, and will lead to such action as will result in a practical plan of educational work.

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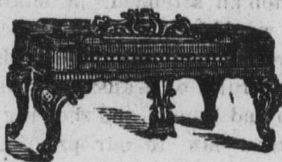
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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1. MANHATTAN, KANSAS, SATURDAY, NOVEMBER 20, 1875.

No. 31.

## THE INDUSTRIALIST.

Published Every Saturday,

BY THE

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OF THE

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#### Buildings for an Agricultural College.

BY J. A. ANDERSON.

Some day and somewhere, there will be an Agricultural College looking so much like the grounds and buildings of a prosperous farmer who did his own repairing and manufacturing, that we of the present, happening by, would mistake it for a little hamlet of thriving artisans built in the heart of rich and well tilled fields. Nothing in its appearance would suggest our notion of the typical college. Its barns, sheds, yards and arrangement would embody the idea of the greatest utility at the least cost. Its implements, stock and fields would show them to be used for real profit. Its orchards and gardens would not only reveal the success of the owner, but, also, his full determination to enjoy the fruit with the labor. We would be quite certain that it was only such a farm—the best specimen of the highest type—were it not for the presence of cheap, stone buildings, one or two stories, scattered among the trees; all of them more resembling mechanic's shops than anything else; some, exactly; others not exactly; and yet no two alike.

One would be used for teaching practical agriculture, but would as little prompt our idea of a recitation room, as the whole cluster would that of an imposing college edifice. While there would be seats for hearers and a place for a speaker, yet the latter would most suggest a circus ring for the exhibition of short-horns, when short-horns were discussed; of horses, pigs or sheep; of surgical operations; of plows, harrows or reapers. The walls would be lined with photographs of famous herds, working models of farm machinery, the grain and stalk of cereals. Part of its surrounding ground would be belted with every variety of growing grasses; and another would be for the draft-test of implements, or the trials of student skill. In fact, it would so look, and so be, like an actual workshop of real farming as not, even in the remotest way, to squint toward the article generally y'clept "scientific agriculture." The interior of another shop, a few rods distant, and equally inexpensive, with its grafting tables, potting benches, packing room, working greenhouse, and, outside, hot-beds and thrifty nursery grounds, would look so much like "gardening for profit" as to throw us completely off the trail of botany as a pure science.

Another would be a force shop, where light, heat, water, sound and electricity were made to reveal their laws, habits and effects, and to do their industrial work. The constant use of its appliances by busy students, in sacrilegious defiance of the rule, "don't touch the apparatus!" italicised with professorial emphasis, would instantly satisfy us that there was nothing "collegiate" there, and that it was only a workshop where pupils had to become skillful workmen!

There would be a mathematical shop, so much like a counting and drawing room, that, when it lead into an inventor's and pattern maker's room, no one could be surprised at its winding up in a machine shop. There would be an English shop, remarkably like a printing office; and the "Printer's Hand Book" of that day might strike us as an admirable drill in the art of using the English language, as well as in that of sticking type—almost as good as a grammar! There would be a woman's workshop, where the pale Hortense, at heart a good deal more sensible, earnest and womanly than society supposes, would strive for the bloom and 'faculty' of Mary. The blessed Mrs. Grundy would be dead! And there would be mason's, carpenter's and smith's shops.

Not a shop of them all would cost \$10,000; and some, not the half of it; because they would be shops, warm, light, cheerful, but workshops—not requiring costly foundations and tall, heavy walls, not finished as are parlors, nor wasting space in broad corridors. And they would not have been foreordained by men of a previous generation, who, to save the lives of the best of them, could not possibly have foretold just what buildings such a college would need. As, in the process of its growth, a want had been felt, its shop was supplied; and each generation had footed its own bills. No! it would not look like our great colleges; but very remarkably like a nest of educational workshops, where flesh and blood students acquired marketable skill for industrial labor. In it, drill in the art would have greater prominence than the stringing of facts on the threads of a system; and the requirements of the art would serve as a skimmer to lift the cream of science as needed. Knowledge would be shoved paying end first, and not, everlastingly, philosophic end first. For the world would have gotten back to the history of its own experience, where art was the Columbus discovering science. In it, educational common sense would have supplanted uncommon educational nonsense. And leaving it, the newly fledged graduate, as does the newly fledged "jour.," would at once earn a living.

Such an Agricultural College would be in keeping with its object, with the requirements and genius of labor, with itself! And, too, it would be in keeping with a rich, broad State, carpeted by emerald grasses, belted by golden grain, clumped with orchards, moving with herds, clustered with villages, threaded by railways, flecked with countless smoke-offerings from the altars of industry to the God of labor.

Some day; somewhere; somehow!

#### Statement Showing the Population of the State of Kansas for 1875.

OFFICE STATE BOARD OF AGRICULTURE,  
Topeka, Kan., Nov. 10th, 1875.

The following table of population is published, to supply numerous applications, in advance of the publication of the Fourth Annual Report of the State Board of Agriculture:

Counties.	Population.	Counties.	Population.
Allen.....	6,638	Lyon.....	9,542
Anderson.....	5,809	Marion.....	5,906
Atchison.....	20,187	Marshall.....	10,822
Barbour.....	367	McPherson.....	6,206
Barton.....	2,099	Miami.....	12,667
Bourbon.....	16,867	Mitchell.....	5,372
Brown.....	8,928	Montgomery.....	13,018
Butler.....	9,852	Morris.....	4,597
Chautauqua.....	7,416	Nemaha.....	7,104
Chase.....	3,116	Neosho.....	11,076
Cherokee.....	12,223	Ness.....	899
Clay.....	6,672	Norton.....	10,268
Cloud.....	7,170	Osage.....	3,467
Coffey.....	7,235	Osborne.....	4,430
Comanche.....	8,963	Ottawa.....	1,006
Cowley.....	9,386	Pawnee.....	2,813
Crawford.....	4,611	Phillips.....	10,344
Davis.....	6,841	Pottawatomie.....	5,113
Dickinson.....	13,945	Pratt.....	8,048
Douglas.....	18,505	Reno.....	2,453
Edwards.....	234	Republic.....	7,065
Elk.....	6,215	Rice.....	567
Ellis.....	940	Riley.....	451
Ellsworth.....	1,758	Rooks.....	1,051
Ford.....	813	Rush.....	6,360
Franklin.....	10,108	Russell.....	8,311
Greenwood.....	6,483	Saline.....	15,417
Harper.....	5,046	Shawnee.....	3,876
Harvey.....	6,681	Smith.....	4,925
Jackson.....	11,716	Sumner.....	4,649
Jefferson.....	7,650	Wabaunsee.....	8,622
Jewell.....	14,580	Wallace.....	9,750
Kingman.....	14,572	Washington.....	4,476
Labette.....	27,738	Wilson.....	12,363
Leavenworth.....	2,493	Wyandotte.....	
Lincoln.....	11,546		
Linn.....			
		Total,	528,437

†Returns of 1874.

The unorganized counties contain a population of about 500.

The population in 1860 was 107,206, in 1870, 364,399; increase in ten years, 239 per cent., or 23.9 per cent. per annum. Population in 1875, 528,437; increase in five years, 30 per cent., or 6 per cent. per annum. The average annual increase in the United States from 1860 to 1870 was 2.22 per cent.

On the first of March, 1874, the population of the State, as returned by the assessors, was 530,367. This included an estimated population of 1,950, as follows: Comanche, 250; Harper, 300; Kingman, 300; Ness, 200; Pratt, 300; Wallace, 600. These counties are not included in the official returns in the foregoing table. Deducting this estimated population of 1,950 from the official returns of 1874, we have 528,417. The official returns of this year, 528,437, show an actual increase of twenty, from 1874 to 1875. Owing to the locust visitation last fall, there was quite an emigration to other States to spend the winter. The census was taken on the first day of March, before our people returned to any great extent. If the census had been taken on the first of May, instead of the first of March, several thousand would have been added to the population returns of the State.

ALFRED GRAY, Secretary.



# THE INDUSTRIALIST.

SATURDAY, NOVEMBER 20, 1875.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## Horticulture.

The South-Eastern Horticultural Society has just held an interesting session at Chanute, Neosho county, Kansas. The counties of Allen, Wilson, Neosho and, perhaps, others, were represented at the meeting. Delegates were appointed to the annual meeting of the State Society, to be held at Manhattan, December 14th, 15th and 16th, and it is hoped that a good representation of the live horticultural element of the south-east will be present on that occasion. The South-Eastern Society can boast of a good number of earnest horticulturists. Some very fine places have been laid out and planted in this section of the State, and unless the northern and central portions of the State look to the matter this part of the State will soon take the lead not only in fruit culture but in home decoration. As far as we know two of the largest apple orchards of the State are located within the bounds of this society; one eighty acres and the other of a hundred acres; the first in Wilson county and the latter in Bourbon. Those people that are so constantly saying that Kansas is no fit place for fruit will hear from these men and other men of the same class in due time. The men who have taken the initiation in this work are worthy of all praise because in every new country the beginnings must always be to a large degree experimental and hence expensive. The annual meeting of the South-Eastern Horticultural Society will be held at Chanute on the last Wednesday and Thursday of January next, when a good attendance and an interesting meeting is anticipated.

In this portion of the State there can be little doubt as to the result of the peach crop. Special attention has already been given to the introduction of new, early and late varieties. Mr. VanDeman, of Allen Co., has more than seventy varieties which he is testing. Mr. Skeels, of Neosho, has originated a very fine peach, the deliciousness and beauty of which tempted us to the expense of a painting so that we can look on it these cold winter days, reminding us of what was and what will be again.—[Prof. Gale.

## A Few Facts for Farmers.

During the past summer, while the crops were growing, the farmers of Kansas were buoyant with hope. The short crops of last year and the aid supplies of the winter were forgotten in the anticipation of the next abundant harvest. The harvest has been gathered. Plenty fills the land. Of food for man and beast there is no lack.

But when a farmer seeks to turn his immense crop into money, how is it? At points remote from the railroads, corn brings only ten to fifteen cents per bushel. At some points on the railroad the price is twenty-five cents.

With the exception of wheat, which brings a fair price on account of the European demand, every kind of farm produce is low. The average Kansas farmer finds that even during this productive year it will be difficult to raise the money to pay his taxes and his interest. Hoped for comforts for the family, schooling of the children, improvement of buildings, must again be deferred. Some are becoming discouraged, and we hear them saying, "Farming don't pay. When I raise a good crop prices are low; when I am obliged to buy they are ruinously high." The farmer who depends upon the proceeds of his corn crop, which he may be obliged to haul fifteen or twenty miles to market and then sell for fifteen or twenty cents per bushel, may well be discouraged. His attention is called to the following suggestive figures. The Utica (N. Y.) Herald, date January 26th, 1875, contains the reports of sixteen cheese factories in that vicinity. From these reports I have selected three, the one reporting the greatest number of cows, the one reporting the least number of cows, and one which reports the number of cows in the two dairies which showed the best average money per cow and the lowest average money per cow, respectively:

1. Frankfort Factory opened March 28th; closed November 25th.

Greatest number of cows.....	600
Average number of cows.....	575
Whole number pounds of milk.....	2,375,370
Whole number pounds of cheese.....	233,990
Average pounds of milk to pound cheese.....	10.15
Average price, in cents, per pound cheese.....	14
Net to patrons per hundred pounds milk.....	\$1 22
Average net, per cow, to patrons.....	\$50 69
Best av. money per cow in a single dairy.....	78 65
Lowest av.....	44 12

JAMES SMITH, Maker.

C. W. and J. Smith, Owners.

Illion, Dec. 21, 1874.

2. Oswego Center Factory opened May 4th; closed October 31.

Greatest number of cows.....	175
Average number of cows.....	160
Whole number of pounds milk.....	447,010
Whole number pounds cheese.....	44,701
Average no. pounds milk to pound cheese.....	10
Average price, in cents, per pound cheese.....	13
Net to patrons per hundred pounds milk.....	\$1 00
Average net per cow to patrons.....	\$30 00
Best average per cow in single dairy.....	45 00
Lowest.....	25 00

L. A. GUSTIN, Maker.

3. Wilder Factory opened April 20th; closed November 11th.

Greatest number of cows.....	500
Average number of cows.....	400
Average pounds of milk to pound cheese.....	9.8
Average price, in cents, per pound cheese.....	13
Net to patrons per hundred pounds milk.....	\$1 16
Average net cow to patrons.....	\$39 88
Best average money per cow in a single dairy.....	50 19
Lowest.....	32 52

E. H. WILDER, Owner and Maker.

December 15, 1874.

These reports show what farmers in New York realize from their dairies in a locality where land is worth from \$50 to \$100 per acre. From a dairy of ten cows during the

cheese-making season the receipts are from \$250 to \$786.50 according to the quality of the cows. This is quite an item for a small farmer.

I believe that dairying as a part of a system of mixed husbandry would be found much more profitable in Kansas than it is in New York. An ordinary cow with good care will pay from \$30 to \$50 per year if her milk is carefully manufactured into butter or cheese. The instances are not rare in this State where this is the case. And yet with pasturage almost free, hay at from three to four dollars per ton, meal at one cent a pound, during the present winter, thousands of pounds of cheese will be imported into this State, and tons of both butter and cheese from Illinois, Ohio and New York will be transported the entire length of the State to supply the market west.—[Prof. Ward.

Now is the time of the year to send five dollars to Geo. W. Martin, Topeka, for a copy of Wilder's Annals of Kansas. No man who has been connected with any of the various forces that have shaped Kansas history can afford to do without the work. Besides everything else, it contains the roster of each Kansas regiment and the list of engagements; and all veterans will want the Annals on the parlor table. It would not be surprising if gentlemen interested in State politics should diligently study these pages for the records of other gentlemen who have engaged in politics. It is just one of those books which, because of the vast multitude of facts crowded into it by the assiduity of its clear-headed author, all persons interested in Kansas matters will need as much as students need a dictionary. In fact it is a better dictionary of Kansas than was ever made of any State, old or young. Typographically it is "as pretty as a peach." The probabilities are that the limited edition of 1,500 will soon be exhausted, and as the forms were not stereotyped, those who want the book had better forward the cash at once. When received, we hope to review the work.

A telegraph instrument has been placed in the post-office, on the College line. This will prove quite an advantage for all concerned. Parties at the College will have direct communication with the office. Mr. Pillsbury can always know just how late the trains are and thus be enabled to keep mail open later when necessary; and last, but not least, we who do business near the post-office will esteem it a privilege to drop in there with a message to be sent instead of making a trip to the depot. Miss Perry is the operator and is perfectly at home in this department.—[Nationalist.

Prof. Kedzie's lecture, last Friday evening, at the Methodist church, on "Switzerland and the Swiss," was a rare treat for our people. It was the first inclement night of the season, but nevertheless the house was crowded half an hour before the time set for commencing. We will not attempt to give a resume of the lecture, for we could not do it justice. At its conclusion, the audience felt inclined to imitate the inmates of Dothboy's Hall when they cried for more.—[Nationalist.



# THE INDUSTRIALIST.

SATURDAY, NOVEMBER 20, 1875.

## Meteorology.

For the week ending Nov. 17, 1875. Condensed by Prof. Kedzie, for the Industrialist, from the records of the Chemical Department:

DAY OF WEEK	Thermometer.			Bar.	Rainfall in in.
	Max	Mth.	Min	Hgt.	
Thursday.....	70°	35°	52°	28.56	
Friday.....	48	30	41	28.73	Sn'w
Saturday.....	41	30	34	28.64	
Sunday.....	49	22	39	28.37	
Monday.....	28	12	23	28.67	
Tuesday.....	28	11	20	29.22	
Wednesday.....	48	21	35	28.78	

Average temperature for the week 35° 28.  
Range of " " " 59°.  
Average barometer " " 28.71.  
Per cent of cloudiness " " 79.  
Melted snow " " 10.

Services to-morrow at the chapel by Prof. Platt.

Clothing at low down prices at Purcell's. 31

A full line of groceries at Purcell's. Call and see them. 31

Boots and shoes at low down prices at Purcell's cash store. 31

Go to Purcell's for your coal oil. Only twenty cents per gallon. 31

Miss Ella M. Thompson, of Irving, Marshall county, has been enrolled, making the number of students received this term one hundred and seventy-five.

Our Prof. Kedzie is jubilant in anticipation of the arrival of his mother and father on a visit. The latter, as Professor of Chemistry in the Michigan State Agricultural College, one of the best institutions ever established, and as chemist to the State Board of Agriculture of that State, has, during long years of successful labor, fairly won the national reputation which is willingly accorded him as one of the first chemists of America. It will be a novel experience for him to be introduced as "the father of his son," but he can have no introduction that will insure him a heartier welcome. And if we know anything about motherly nature, Mrs. Kedzie will keenly enjoy the situation, and may possibly call the senior professor's attention to the fact that in these degenerate days the master of the household is apt to be interfered with by the youngsters. In behalf of the outsiders we give them the heartiest of greetings.

Judge Brewer's lectures on Practical Law have been masterly and effective in every respect. Their value to all who heard them will be lasting. No hours have been more profitably or pleasantly spent by any students in any institution. The subjects discussed have been: Interest; contract of guarantee; contract for hiring service; obligations of employer and employee; contract of marriage; partnership contracts; how dissolved; and damages for breach of contract. At the opening of each lecture the Judge answered such questions as had been deposited in the question box; and all that we said in praise of the course last week we would now repeat with greater emphasis.

Owing to the break which Thanksgiving and examination days make in the coming week, and to Judge Brewer's engagements in December, the remainder of the course is necessarily postponed to January or February. It will be completed at the earliest practicable date, due notice being given thereof. We cannot specify the several ladies and gentlemen in attendance from Manhattan, but were glad to see them.

## Answers to Correspondents.

Cloud county:—You can get good boarding at from \$2.75 to \$4.00 per week; or, you can "board yourself" at from \$1.15 to \$1.50 per week including all expenses for rent, fuel, light and provisions. Last winter four of our students lived in this manner at

an actual cost of \$1.11 per week. Text-books will not average more than \$2 or \$3 per term. Bring with you your text-books on arithmetic and grammar; you can obtain here any others you may need.

The College does not furnish rooms, it only gives a practical and thorough education for the farm, shop or store, absolutely free of cost for instruction. In the latter respect it is like the common school.

If you want to learn a trade we will teach you the sciences used in the practice of that trade, and, at the same time the trade itself. Say you wish to be a blacksmith; at home you cannot work in a shop as an apprentice and also attend the district school. You must either go to the shop all day, or go to school all day. Here you will take those studies that will be of most use to you, and work one hour in a shop, getting your literary and trade education at the same time. The latter is as much a recitation as the former. If you wish to work more than your recitation hour in the shop you can do so, on your own account, receiving of course such instruction as your work requires.

If you intended to be a teacher of penmanship you do not write well enough, but you write well enough to say what you wish so that others can read easily, and that is all any language is really used for. A thirsty man wants water; he can take it out of a glass, tin cup, gourd or bucket. They only serve as vessels to convey the water, and it is not the vessels but the water which he wants. So it is with words, written or spoken; they are only vessels to convey ideas. The thing which you say is of more importance than the characters in which you say it. Your writing is plain and clean; it might be better, and if you come here it will be made better; but it is good enough for actual use; and most certainly the fact that you have not had the practice which an expert penman must have before he becomes an expert, shall not deprive you of the opportunity of availing yourself of the advantages offered you by the State to obtain such an education as will enable you to make an honest living as a farmer or mechanic.

The Alpha Beta Society met Friday afternoon in the usual place. G. H. Fallyer and A. A. Stewart were installed secretary and marshal respectively. The debate on the question, "Should the Indian Territory be open to settlers?" was very interesting. Decision in favor of the negative. There were two new members initiated, Miss Campbell and Mr. Foster. Mr. Maltby read an original article in which he tried to show that whatever social qualities nature had endowed us with were sufficient, and that there was no need of our cultivating such qualities. This paper was made the subject of extemporaneous speaking and as most of the members considered it a one-sided question they spoke quite warmly in opposition to Mr. Maltby; he, however, had some friends on the question. A declamation was well delivered by Mr. James Maltby.

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Topeka, Nov. 10th, 1875. 30-tf

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Tracing the development of the root, stem; bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds.

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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, NOVEMBER 27, 1875.

No. 32.

## THE INDUSTRIALIST.

Published Every Saturday,

BY THE

PRINTING DEPARTMENT

OF THE

KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

### Terms of Subscription.

SEVENTY-FIVE CENTS per year, postage prepaid. Ten cents per month, postage prepaid. Single copies, delivered at office, two cents each; by mail, three cents. Payment absolutely in advance! Paper stopped at expiration of subscription.

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### FARM CULTURE OF EUROPE.

Report of Prof. W. K. Kedzie to Kansas State Board of Agriculture.

KAS. STATE AGRICULTURAL COLLEGE, }  
Chemical Department, }  
November 10th, 1875. }

HON. ALFRED GRAY,

Sec'y State Board of Agriculture,

Dear Sir:—In accordance with your request, I hereby submit to you a brief report of my own observations during a recent visit to the Agricultural Experiment Stations of Europe, more particularly those of Germany which have recently taken so high a rank. As a complete account of the work and objects of these institutions would occupy an entire volume, it is obviously entirely beyond the province of this report to attempt anything farther than a very brief outline of the methods of European farm culture as illustrated by what was courteously shown me by the authorities of a few of the principal stations. On March 29th last, just before sailing from New York, I received from your office the following general letter of introduction:

OFFICE KAS. STATE BOARD OF AGRICULTURE, }  
TOPEKA, March A. D. 1875. }

Professor W. K. Kedzie, chemist to the Kansas State Board of Agriculture, is hereby appointed and commissioned to represent this Board in continental Europe and Great Britain, in making investigations of experiment stations and museums of agricultural organizations, and to make arrangements for a mutual exchange of publications and products.

In testimony whereof we have hereunto subscribed our names and affixed our official seal.

GEO. T. ANTHONY, President.

ALFRED GRAY, Secretary.

With copies of the above commission in English, German and French, and with similar official letters of introduction from Governor Osborn and from the United States Secretary of State, I found myself cordially received and every facility and opportunity for examination freely offered. I at the same time received from your office a dozen volumes of the report of your Board for the year 1874, which I carefully distributed among the more prominent agricultural societies of England and Germany. I was much gratified at the general admira-

tion which the handsome appearance of the volume elicited, even those to whom English was an unknown tongue at once appreciating the graphic manner in which the general features and resources of Kansas are pictured by the abundance of maps and charts which the report contains.

Probably nothing will impress itself more strongly on the attention of the American traveler over continental Europe, than the great variety and diversity of the methods of farm culture which there prevail. While a man may journey for many hundred miles over the continent of America without observing any essential difference either in the kind or character of farm crops, or in the general methods of farm management, he will find in traveling the same distance across the continent of Europe quite as many different systems as there are nations practicing them. These systems he will observe varying in all shades and degrees of completeness from almost absolute perfection on the one hand to a culture so shabby and slovenly that it would be deemed a disgrace to the worst frontier farming in America. Over many portions of the continent also there is a notable absence of improved farm machinery, and through countries where the most improved implements are generally in use they will very generally be found to have originated from either English or American inventions. A professor of agricultural mechanics in one of the foremost of German universities, recently said to me: "It is to the inventive genius of you Americans that we in Germany must look for our improved farm implements." The two most important factors which enter in to the problem of national farm economy are upon the two continents of course almost wholly reversed. Here land is cheap and farm labor correspondingly expensive. There land is in many countries scarcely to be purchased at any price and, from the diversity of population, farm labor so low-priced as to hardly be said to have a market value.

Throughout the better portion of England the combination of circumstances is such as to produce perhaps the most ideally perfect system of farm culture in existence. From their enormous population and from the great value of farming lands it of course becomes a matter of national importance to make the best use of them possible. The combination of English farming lands into large estates render it possible for them to realize the benefits resulting from the employment of large capital. Improved and complicated farm machinery is here seen in all its perfection, steam plows being not infrequently employed; thorough under-drainage is carried to its uttermost limit; natural and commercial manures are used in quantities which would appear to us excessive. And as a natural result of this system of "high farming" the crops which follow are in many cases simply enormous. On the other hand, just across the English channel, in the little province of Belgium, the peculiarities of "small farming" are seen in all their perfection. This is strik-

ingly seen in the tract of country lying between Ghent and Antwerp, known as the Waesland, once a barren moor, but now probably the most fertile and productive tract of land in existence. The farms are rarely over from five to ten acres in extent, and the cultivation ordinarily bestowed on a choice garden-bed is here given to every acre of land throughout the province. In consequence of the small size of the estates also, the methods of culture are of the simplest imaginable type, the labor being performed by the entire family, men, women and children. The number of crops removed from the land each year is astonishing and it is no sight to find the man of the household harvesting one crop while close behind him the family cow and donkey yoked together and driven by the woman are doing the ploughing for the immediately succeeding crop. With such a system of cropping the amount of manure applied each year is of course immense, in some cases as high as sixty tons to the acre; and a farm of ten acres will not infrequently be found to be carrying from thirty-five to forty head of stock.

Again, proceeding farther east and southeast upon the continent, the character of the farm culture once more changes. Through some portions of Germany and Austria the traveler will be carried for miles through a country entirely undivided by fences, blossoming with most luxuriant crops, and yet without a habitation in sight for long distances. The picturesque isolation of farm life as commonly prevailing in America is in these regions almost wholly unknown, the cottages of the farm laborers being collected together in little clumps or villages, and the laborers themselves frequently walking considerable distances to their farm work.

But especially interesting to a Kansan is the region extending further south through the peninsula of Italy. No observant traveler through this region can fail to be strikingly impressed by the strong similarity existing between certain portions of Kansas and of Central Italy both in the nature of the climate and the general features and appearance of the country. The frequent and somewhat boastful allusion to Kansas as "the Italy of America" is by no means so entirely without foundation in fact as is generally supposed. The similarity is also rather heightened than otherwise by the abundance of the long-horned and long-limbed breed of cattle, plainly of Spanish descent, the well-known origin of the Texas cattle so prominent in the stock trade of this State.

But no traveler can have failed to admire the remarkable thrifty and thorough farm culture of many portions of central Germany. This condition is in no small degree due to these Agricultural Experiment Stations for which Germany has so long been famous. The Germans have always understood the importance of a thorough understanding and an equally thorough application of chemical principles in the growth of farm crops. There is probably no people

[Continued on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, NOVEMBER 27, 1875.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## The Winter Dairy.

From the Kansas Farmer.

In the great forest regions of the East, winter is to the farmer never a period of idleness, but often it is his busiest and most profitable season. The demand for lumber, ties, staves, posts, and the hundred products of the forest, is as constant as for pork or wheat, and they are often produced at even a greater profit than these standard products of the farm. But in Kansas and the prairie States generally the timbered region is a limited area, and the advantages possessed by the East in this respect are more or less wanting. This is a matter that impresses the imagination of the immigrant often powerfully. In the eastern States I have often heard it urged against immigration to Kansas, that from lack of winter employment the farmers consumed during the winter months all that was grown in the summer. That such is often the case cannot be denied. That it need be thus may be safely disputed.

Under the subject named at the head of this article, I propose to offer some suggestions regarding a much neglected branch of farm work, and one which promises to do much towards furnishing the farmers of our State with a continuous round of profitable employment during the entire season. From my first acquaintance with this State I have felt satisfied that a winter dairy, under proper conditions, may be made much more profitable than the ordinary summer arrangement. I say under the proper conditions, and by that phrase I mean comfortable quarters for the cows, abundant and nutritious feed, and a dairy cellar well protected from extreme weather.

I question much whether there is a country in the world that can compare with Kansas in the abundance and cheapness of cattle foods. At the present time an excellent article of hay is sold in this city for \$4.00 per ton, and in the country it may be had in abundance at nearly half this price. Corn, the finest grown, is a slow sale at twenty and twenty-five cents, while coarse grains and fodders generally bring prices in proportion. Butter, on the other hand, is in constant demand, and at a price considering the quality that would be considered good even in the eastern States. Butter, in this market, brings readily twenty cents, and the lowest price that I have paid during season is twenty cents and often for a very inferior article at that. During the winter season a barely decent article of butter finds quick sale in the stores at twenty and thirty cents per pound. It seems to me that these fig-

ures are suggestive of profitable employment for all and at all times.

For a year or more I have been in the habit of comparing the prices of farm products here in central Kansas with those reported in the local papers of central Michigan. I find that butter there averages not far from four cents higher than in this city. Hay, again, in this place has varied from \$3.50 to \$8.00 per ton during the past year, and in Michigan during the same period from \$10 to \$16 per ton. Of course there is a difference in quality in favor of the Michigan product, but nothing like the difference represented by these figures. We may, I think, in this way compare the prices of all the common cattle foods, corn, oats, bran, etc., with those prevailing in the eastern States, and with a like favorable showing for our dairymen and cattle feeders. I urge these facts to show that our agriculture has its advantages, and that in the distribution of the good things, Kansas was neither "left out" nor forgotten.

The cultivation of beets and especially mangel-wurzels deserves much more attention than it has ever received from our dairymen and stock-growers. Of all the marvelous products of these fertile prairies, nothing has astonished me so much as their root crops. I think I speak advisedly when I say that to him who makes dairying his winter work no crop can be more profitably grown in Kansas than mangel-wurzels. For two years past we have grown a few acres upon the college farm, and, although the season of 1874 was so generally disastrous, we succeeded in harvesting two hundred and eighty-seven bushels per acre at a cost of less than ten cents per bushel. A large portion of these were sold at twenty-five cents per bushel. The more favorable season of 1875 has given us a greatly increased yield, with the cost proportionately diminished. Next winter, when our cows begin to need a relaxing food, we shall feed our wurzels, and from this feed we shall get milk and butter hardly inferior in quality and quantity to that furnished by June pastures.—[Prof. Shelton.]

HON. ALFRED GRAY, Secretary of the State Board of Agriculture, reports, from the official returns made to him, that there are in Kansas 106,224 head of sheep and 74,905 dogs. In other words, there is less than a sheep and a half to a dog, and everybody knows that this amount of meat is wholly inadequate to sustain a healthy dog twelve months. Dogs have rights which a civilized nation is bound to respect, one of which is the right to enough food to sustain life comfortably; and we trust that the Legislature will enact such measures as shall tend to the speedy increase of the supply of sheep. To say nothing of the coyotes, 106,000 sheep are very scant rations for 75,000 dogs.

THE Monthly News, published by Mr. Irving Todd, of this institution, has the following sensible article on industrial education:

This is an old theme, and it is not likely that we are about to say anything that has not been said before. But as industrial education, in this country at least, is yet in its infancy, simply an experiment, it is possible that people would like to know what are the advantages of this course of instruction.

In the first place, an industrial education is one which teaches farmers' sons to be farmers and not lawyers or doctors. If one can learn his trade and at the same time get his education it is certainly a good thing, and this is just what is aimed at by industrial education. But this kind of education is really not a new thing. In the old world it has been successfully practiced, and if a success there, why should it not be on this side of the water?

These industrial schools are not intended for those who expect to be professional men. It is not probable that such will care to know how to saw a board straight, nor will they care to learn how to handle type without "distributing" it about the floor. But young men who are to get their living upon a farm, or in a work-shop or printing office, may like to be acquainted with some of these things.

THE ninth annual meeting of the Kansas State Horticultural Society will be held at Manhattan, commencing December 14th, and continuing three days. The call for the meeting well says: "At no period during the existence of our State has the importance of an assembling of the friends of horticulture for general consultation been so universally felt as at the present time. The condition of orchards, vineyards, &c., calls for the experience and practice of earnest and intelligent workers, and all who have an opportunity should attend."

PROF. GALE delivered a lecture to an attentive audience. Subject: "The Line," the study of which, as affecting the educational interests of the industrial classes as now taught in the interest of the professions, but as should be taught for the development of the more noble pursuits of industry. There was an inherent antagonism between the two systems of instruction. The average college course is a special adaption to professional life, demanding a thorough intellectual drill and pure æsthetic culture. The industrial course should put the practical foremost in giving prominence to those sciences involving the study of the line, its practical application to all the pursuits of industry. Numerous drawings were referred to in the lecture, to illustrate that the advances of society towards a higher civilization was in the ratio to its knowledge of the practical use of the line as applied by the mechanic, artist and all professions of industry.—[Chanute Times.]

## WEBSTER SOCIETY

OF THE

Kansas State Agricultural College.

Organized, Oct. 12th, 1868; chartered, Jan. 1871.

Motto: "Labor Omnia Vincit."

Meets Saturday evening each week.

L. B. ROGERS, President.

F. O. HOYT Sec'y.



# THE INDUSTRIALIST.

SATURDAY, NOVEMBER 27, 1875.

## Meteorology.

For the week ending Nov. 25, 1875. Condensed by Prof. Kedzie, for the Industrialist, from the records of the Chemical Department:

DAY OF WEEK.	Thermometer.			Bar.	M'n H't.	Rainfall in in's.
	Max	Min.	Me'n			
Friday.....	54°	24°	41 <sup>01</sup> / <sub>3</sub>	28.59		
Saturday.....	45	4	28 <sup>1</sup> / <sub>3</sub>	28.96		
Sunday.....	23	7	17	29.37		
Monday.....	44	18	29 <sup>2</sup> / <sub>3</sub>	28.88		
Tuesday.....	35	5	25 <sup>1</sup> / <sub>3</sub>	29.14		
Wednesday.....	48	10	30 <sup>2</sup> / <sub>3</sub>	29.08		
Thursday.....	54	18	39 <sup>1</sup> / <sub>3</sub>	28.55		.02
Average temperature for the week, 30°.23.						
Range of " " " 50°.						
Average barometer " " 28.94.						
Per cent of cloudiness " " 61.						
Rain-fall " " .02.						

Clothing at low down prices at Purcell's. 31

A full line of groceries at Purcell's. Call and see them. 31

Boots and shoes at low down prices at Purcell's cash store. 31

Go to Purcell's for your coal oil. Only twenty cents per gallon. 31

Don't forget the entertainment this evening in the College chapel.

President Anderson preaches in the chapel to-morrow afternoon.

The Board of Regents stands adjourned to meet Tuesday, December 7, at 7 P. M.

Dr. Kedzie, of the Michigan Agricultural College, will deliver a lecture to the students next Monday at the third hour, 11:20 A. M.

The examinations for the month were held yesterday, and we doubt not that the grades will show a general advance over those of last month.

Up to this present writing the weather has been unusually fine for college purposes. Since the term opened, August 26th, there have been but two days when mud interfered with the walking, and but few mornings have been unpleasantly cold.

A telegram was handed to Miss Nellie Sawyer in chapel Wednesday morning, conveying to her the sad intelligence that her younger sister had just died. Miss Nellie left on the morning train, taking with her the sincere sympathy of her many friends.

The Mechanical department is getting out a fine assortment of useful and ornamental articles. Among the former is a kind of wheel-barrow that will stand harder usage and is more easily repaired than any in the market. Capt. Todd is the inventor. Among the latter many beautiful patterns of brackets attract attention.

The Farm Department shipped yesterday a pure-bred Essex sow, aged three years, and weighing in only fair flesh five hundred and sixty pounds. This animal was bred by Mr. Jos. Harris, "Moreton Farm," Rochester, N. Y., and we think the above figures detract nothing from the well-earned reputation of his herd.

The one hundred and seventy-six students enrolled are from thirty-nine counties or States; and a glance at the following list will show that the Agricultural College is a State institution in fact as well as in name. Only twenty-three, or thirteen per cent, out of the one hundred and seventy-six are from the town of Manhattan. It is questionable whether the other State institutions have not a larger percentage of attendance from the towns in which they are located:

Atchison, 1; Brown, 1; Chase, 2; Cherokee, 4; Clay, 1; Coffey, 5; Colorado, 1; Davis, 8; Dickinson, 8; Doniphan, 1; Douglas, 1; Ellsworth, 2; Franklin, 4; Harvey, 1; Illinois, 1; Indiana, 1; Indian Territory, 2; Jackson, 1; Jefferson, 4; Johnson, 1; Labette, 3; Linn, 3; Lyon, 3; Marshall, 5; Miami, 1;

Missouri, 3; Nemaha, 2; New Mexico, 1; Osage, 6; Osborne, 1; Pottawatomie, 15; Reno, 1; Riley, 68, of whom twenty-three are from the town of Manhattan; Saline, 2; Sedgwick, 2; Shawnee, 2; Wa-baunsee, 6; Washington, 1; Wyandotte, 1. Total, 176.

## Students' Column.

George Gale, who has been quite ill for a week past, is, under kind care and treatment, speedily recovering. He may well congratulate himself upon having evaded a siege of typhoid fever.

The following resolution was adopted by the members of the Alpha Beta Society at its meeting on the 19th:

Resolved, That we, as members of the Alpha Beta Literary Society and students of the Kansas State Agricultural College, hereby tender to Judge D. J. Brewer our thanks for his highly instructive and easily comprehended lectures on Practical Law, and that we shall be pleased when circumstances will permit the completion of the course.

MISS NELLIE SAWYER, President.

G. H. FAILEYER, Secretary.

A free entertainment will be given in the College chapel this evening, the exercises opening at 7:30. The entertainment is in charge of the lady teachers and some of the students of the College; has been gotten up on short notice; and is designed simply to afford some little amusement or enjoyment during Thanksgiving week. The entertainment will consist of scenes from "Rienzi," a charade in four acts, tableaux and music. Everybody is invited, and it is hoped that all who would enjoy an evening pleasantly will attend.

The Alpha Beta Society called to order on the 19th by the President. After devotion an interesting debate followed on the question: "Is the present Tariff preferable to Free Trade?" Decision in favor of negative. Under miscellaneous literary exercises Miss Gale delivered a very acceptable declamation. Under miscellaneous business F. B. Quinby and Miss Evans were appointed to edit a paper to be read in two weeks. The secretary was instructed to draw up resolutions extending to Judge Brewer the thanks of the society for the instructive course of lectures he has delivered before the students.

A party of students, some thirty in number, desirous of making the most of the Thanksgiving holiday and at the same time of evincing their good feeling towards one of their worthy classmates, congregated at the printing hall on Wednesday evening and proceeded from there to the residence of Prof. Gale, where, upon a gentle tap at the door, appeared Miss Ella Gale who immediately comprehended the situation and confessed herself taken completely by surprise. Never did hours fleet faster nor persons enjoy themselves more than on that evening, according to the testimony of one who was there. It was the first general gathering of the kind this term and every one was full of mirth and joy. About twelve o'clock, after a pleasant evening's entertainment in the shape of social chats, games, charades, candies, nuts, apples, etc., the party retired fully satisfied with the way in which they had saluted the coming holiday.

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Dr. Patee. 11-20

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## ALPHA BETA Literary Society OF THE Kas. State Agricultural College. Organized, Oct. 17, 1868. Chartered, Dec. 26, 1870.

The society holds its sessions in the college building every Friday afternoon at two o'clock.  
MISS NELLIE SAWYER, Pres.  
G. H. FAILEYER, Sec'y.

E. B. Purcell, Banker. Jno. W. Webb, Cashier.  
Geo. S. Green, Attorney.

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GEO. W. MARTIN, Publisher.  
Topeka, Nov. 10th, 1875. 30-tf



[Continued from first page.]

among whom the work of the agricultural chemist is held in so high favor, and every facility and encouragement is offered him in the prosecution of his investigations. From Germany these experiment stations have extended to nearly every portion of Europe, a good number being now in existence in France and several through northern Italy. The valuable results which have accrued to the practical agriculture of every region where they have been established can hardly be overestimated. They are frequently incorporated with the Landwirthschaftlichen Academies, which correspond quite closely to our own Agricultural Colleges, and these in their turn have frequently a general connection with some one of the large universities. Sometimes these stations are established under the special supervision of the agricultural society of the province in which they are located. They all receive government aid and in return are required to make to the Minister at Berlin a rigid report of their investigations throughout the year in connection with such general statistics as may be demanded, which are published in an official volume. Any failure on the part of the reporter in rigid accuracy in the return of these reports and statistics is followed by very serious official censure. These stations are invariably under the supervision of some man who has distinguished himself by special research in some one of the sciences specially relating to practical agriculture.

[Concluded next week.]

## KANSAS STATE Agricultural College.

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**EDUCATION**  
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The fall term began Thursday, August 26, 1875.

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The Laboratories are fully furnished with the best philosophical apparatus and the largest assortment of chemical apparatus and reagents west of the Alleghanies, all of which is for the use of the students.

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The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

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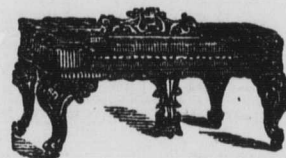
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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, DECEMBER 4, 1875.

No. 33.

## THE INDUSTRIALIST.

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#### FARM CULTURE OF EUROPE.

Report of Prof. W. K. Kedzie to Kansas State Board of Agriculture.

[Concluded from last week.]

One of the first of these institutions which I visited was the Agricultural Academy of Popplesdorf, near the university of Bonn, and under the able direction of Dr. Dunkleberg. I was here placed under special obligations to the courtesy of Prof. Giessler who spent an entire day with me in the examination of the various departments of the Academy. This institution has now been established some twenty-five years and is well supplied with buildings and apparatus. Its chemical laboratories, three in number, are arranged with great convenience for the special examination of farm products, manures, etc. The museums of commercial manures and of food products are exceedingly fine and complete. Connected with the Academy is a fine farm divided into two portions, one of which is devoted to pure experiment, that is, the use of manures and the growth of crops without reference to cost, for the determination of chemical principles; the other portion is the experimental farm proper, in which the question of profit and loss is most carefully considered, both in the application of manures and in the crops produced therefrom. Much attention is here given to the best methods in the growth of the cereals. A field was pointed out to me which for twenty successive years had been sown to wheat without manure; on one portion, broadcast by hand; upon the other sown by drill; the difference in favor of the latter was very striking. I was also shown a field of rye which, during the preceding season, had been cut three times for green fodder, then wintered over, and when I saw it was heading out and promising to produce a heavy yield of grain. The plan was strongly recommended by the farm superintendent. The farm is also very well stocked, their favorite breed of cattle being a cross between the Holstein, or Dutch cattle, and the English Shorthorns. This cross pro-

duces large, fine animals, remarkable as milk producers both for quantity and quality. The botanist of the academy, Dr. Kornicke, also exhibited to me his collections of seeds and grain products, without doubt the most complete and extensive in Europe. As desired, I here made preliminary arrangements for an exchange between your office and the Academy, not only of reports and publications, but also securing the promise of a complete set of the commercial manures in general use in that portion of Germany, with their value as fertilizers attached; and also of a complete suite of their farm products. They desire in return full sets of the farm products of Kansas, more particularly specimens of the smaller cereals, Indian corn in the ear, cotton, flax and the castor bean.

The Agricultural Academy of Hohenheim has until recently ranked highest among similar institutions in Germany. It is now probably equalled in every respect by that of Halle which I next visited. I was particularly indebted to the courtesies of Prof. Wust who very affably exhibited to me the full working of the Academy. Its general plan and design is, of course, very similar to the Academy of Popplesdorf, though it is in some respects conducted upon a more extensive scale. Upon the grounds of the Academy is a small but well-fitted agricultural laboratory, under the special direction of the agricultural society of the province, which will illustrate very fully the work commonly performed by the laboratories of these experiment stations. It controls the entire manufacture and sale of all commercial manures within its province. Dealers are compelled to forward to this laboratory fair samples of all their manures; these are analyzed and the price graded accordingly. The director of the laboratory has power at any time to send an assistant to the factory to collect such samples as he chooses, and the manufacturer is bound to abide the result of the analyses. Thus all frauds and adulterations, so frequently perpetrated by these manufacturers in this country, are wholly avoided. In the same manner all samples of wool produced in the province are examined in this laboratory; the amount of water contained estimated, as well as the waste resulting from washing and cleaning, and both buyers and sellers make their bargains upon the results obtained by the chemist. All fraud and loss to either party is thus entirely prevented. The general agricultural laboratory of the Academy is exceedingly large and well regulated, the work of its students being principally directed to the examination of farm soils. Connected therewith is also a microscopic laboratory for the investigation of fungoid diseases frequently investing farm crops. The farm in connection with the Academy is wholly experimental and exceedingly well handled. Manufacturers of farm machinery send their implements here to be tested, and after thorough trial the tool is returned to them with a certificate stating its value. Their collection of sheep is not only the largest, but greatest in variety, that I saw

upon the continent. I found Dr. Kuhn, the director of the Academy, desirous of making the same preliminary arrangements with your Board for an exchange of products and publications, as in the case of the Academy of Popplesdorf. He promises particularly to furnish you a complete suite of the wools of continental Europe, and probably possesses better facilities for completing such a collection than any other collector upon the continent. He desires in return to obtain typical sets of the farm products and resources of the State; and as he is now prosecuting important investigations as to the causes of smut, rust and other fungoid diseases of cereals, he desires to obtain specimens of diseased grain as it occurs in this State.

It will be quite unnecessary for me to enumerate the many other stations which I visited and examined with great care, for while each has some specially distinctive feature of its own, their general plan and design are much the same. Of the experimental stations proper, probably none is more important than that under charge of Professor Kuhn, at Mockern, near Leipzig, under the direction of the agricultural society of the province. A large experimental farm is in connection with the station, and it leases more land as needed from surrounding farmers. Its laboratory performs exceedingly important work in the examination of manures, wools, etc., and in experimenting upon the feeding of animals.

Particularly interesting to me was the station of the Academy in connection with the university of Leipzig, whose experimental laboratory is under the able direction of Prof. Stohman. This laboratory was without exception the most extensive and complete of its kind that I visited. A large proportion of its work is devoted to thorough investigations upon the nutrition of animals, in which the effect of different methods of feeding is very carefully traced, both by examination of excrements but also in the measurement of the amount of carbonic acid and watery vapor respired. In this experiment an ox undergoing a certain process of feeding is placed in a large air-tight room built of sheet iron and connected with a complicated respiratory apparatus by which means the effect and comparative value of the food as determined by its influence upon the respiration is easily determined.

But no account of the experimental enterprises in European agriculture would be worthy of notice which omitted the celebrated farm of Lawes & Gilbert, at Rothamsted, near London, England. I was particularly fortunate in my visit here, finding myself very opportunely in the midst of a party of some fifteen members of the Royal Agricultural Society of England, headed by Dr. Volcker, the able chemist of the society, and with them made my survey of the extensive series of experiments. The estate is an immense one of some 2,000 acres, the property of Mr. Lawes, and the series of farm experiments here in progress is probably

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, DECEMBER 4, 1875.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE present Term of the Agricultural College began August 26th, and will close Thursday, December 23d. The Winter Term opens Wednesday, January 5th, 1876, and will close Wednesday, May 24th.

## The Winter Dairy. No. II.

From the Kansas Farmer.

It has been urged as an objection to the winter dairy, that under this system the calves are dropped in the fall of the year, greatly to their detriment. With the farmer who has not comfortable quarters for his dairy stock, this may be true. Such men will do well to keep out of the business entirely. But those farmers who are forehanded, and give their stock decent care and protection during the winter, will find the plan of having their calves dropped during October or November, instead of the spring, a positive advantage in most cases. This is well understood by the breeders of fancy and show animals. They say that calves dropped in October will, at a year old, be quite equal to those calved the previous June; the cold weather, with proper protection, being much less injurious than the "heated term." Moreover, there is to them this advantage: these animals are exhibited at the "shows," usually held in September, as "calves" when they are really eleven months old, and as "yearlings" when they are twenty-three months old. It often happens that the dairyman does not wish to raise the bull calves. Such animals dropped during the fall may be disposed of during the winter, when veal is scarce, at prices that astonish those who have never made such sales. In January last, I sold two grade calves from the College farm, at two and a half months, at an average of \$11.64. I think I need not tell practical men that at no other age would these animals have netted as much money. Three months after I had disposed of these calves I could have purchased a car load in this vicinity at \$4 per head.

In presenting these considerations I have reference solely to the wants of the general farmer, and they are offered as complementary to the general farm work rather than as a substitute for it. The business of dairying, exclusively, is in certain localities unquestionably a profitable one, but from the very nature of the business, its success as compared with general agriculture will be confined to localities. Anything like a general abandonment of mixed husbandry, for dairying or any special system, will in our State result in disaster to the community making the change. The highest compliment that can be paid any agricultural

country is to say of it that it is well adapted to general farming. Regions peculiarly adapted to dairying are usually good for nothing else, with the additional advantage of having easy access to markets.

In transferring the dairy season from summer to winter, we make a change greatly to the advantage of the general farm operations. The summer dairy has some peculiar difficulties to encounter. We have no carefully fenced clover and blue-grass meadows upon which to pasture our cows, and fences are too expensive to be generally used upon the prairie range. As a result, a large proportion of our milch cows are forced to take their chances upon the open prairie, and of necessity they are milked irregularly, they consume aromatic weeds which give to the butter a disagreeable flavor and are liable to all the accidents which so commonly befall animals running at large. The inferior character of Kansas butter as shown by the estimation in which it is held in the markets East and West, is to be attributed neither to lack of skill in manufacture, the quality of the grass, nor to the climate; the great difficulty is that our cows are forced to seek their subsistence upon the "range," they travel long distances, they are hurried to and fro by dogs and men on horseback, and they have free access to manure piles and garbage. These it must be confessed are difficulties in the way of dairying as a speciality in Kansas. Of course these obstacles are not insuperable, the only question is as to the best method of surmounting them. It seems to me that by the winter dairy this is best accomplished. The advantages of this system may be briefly summed up thus: 1. The winter dairy furnishes work at a season when farmers are usually idle. 2. It in no way conflicts with the general farm work. 3. It enables the farmer to obtain the highest prices for the products of his herd. 4. The farmer has perfect control over the food of the cows, and in this way he is enabled to produce an article at the maximum in quantity and quality.

So much for the general consideration of this subject. Very much more might be said in this connection, and much more will suggest itself to practical men. The writer has not aimed at an exhaustive discussion of this subject, and if he shall have made it seem worthy the consideration of thoughtful farmers, his object will have been largely accomplished.

The practical question now arises, what conveniences in the way of shelter and stock, and dairy room, are needed by the farmer of small or moderate means who may desire to practice winter dairying? In the absence of data in the matter of capital, number of cows, etc., it will be impossible to enter into details. So far as the cows are concerned, abundant and nutritious food,

warm and well ventilated buildings, and ready access to good water, are the things chiefly to be considered. These are vital matters and cannot be neglected except at a great loss to the dairyman. They are not urged out of a sentimental regard for the comfort of the animals, but because it is a truth as old as the domestic race of cattle that to neglect in this matter is to lose sight of the very elements of success. No animal pays so liberally for generous treatment as the dairy cow. To properly shelter these animals expensive buildings are not a necessity. Any farmer may with a team and extra hand, in a few days, put up a shed that will accommodate a dozen cows and be comfortable in the severest weather. It may be an excavation four or five feet into a side hill, its sides walled up and its roof covered with straw, or it may be the common pole shed, with its sides and roof well banked up with straw or earth. By either of these plans a building may be made at very slight cost as warm and comfortable as one costing thousands. In any event, let the buildings be convenient to water. Dairy cows are averse to much exercise and will frequently go thirsty rather than travel long distances for water.

For the dairy room the ordinary cellar will answer every purpose provided it is kept sweet and wholesome, and used exclusively for the dairy. Milk is exceedingly sensitive to odors of all kinds, and seizes upon them with the greatest avidity. If the milk is allowed to stand in that household abomination, the cellar with its decaying vegetables, coal, soap-grease, and the usual half score of unsavory articles, it becomes hopelessly tainted in a single night. It has been found that even a sprig of an aromatic shrub placed over night beside a pan of milk taints it perceptibly. If in addition the dairy room can be kept at a uniform temperature not far from 56°, the cream churned often, and the ordinary precautions as to cleanliness be observed, a first class article of butter is not beyond the reach of ordinary skill at any season of the year.—[Prof. Shelton.]

Out of the thirty-five Vassar College girls who had studied Latin, Greek, French, music, drawing, botany and mineralogy, for five or six years, twenty-seven married poor men and have to do their own housework. One of them said the other day that she'd rather have a recipe for sweet pickles than all the Latin ever taught her.

When our Agricultural College took its "new departure," a certain family in town was very indignant because their daughter was obliged to take "an industrial," if she remained. They believed in Latin, and wanted her to pursue a purely literary course. However, as they could not have their own way, the daughter took a course in telegraphy. Since then the family have removed from town, and the young lady is earning her living as an operator. She now probably realizes that the study she did not want to take is worth more to her than all the dead languages would have been.—[Nationalist.]



# THE INDUSTRIALIST.

SATURDAY, DECEMBER 4, 1875.

## Meteorology.

For the week ending Dec. 1, 1875. Condensed by Prof. Kedzie, for the Industrialist, from the records of the Chemical Department:

DAY OF WEEK.	Thermometer.			Bar.	Rainfall in in's.
	Max	Min.	Me'n	M'n H't.	
Thursday.....	54°	18°	39° 1/2	28.55	.02
Friday.....	37	15	26 2/3	29.00	
Saturday.....	60	20	37 2/3	28.82	
Sunday.....	34	-2	22	29.12	
Monday.....	16	0	11	29.27	
Tuesday.....	50	18	32	28.79	
Wednesday.....	60	28	41 1/2	28.60	

Average temperature for the week, 30°.04.  
Range of " " " 62°.0.  
Average barometer " " 28.94.  
Per cent of cloudiness " " 26.  
Rain-fall " " .02.

Clothing at low down prices at Purcell's. 31

There will be no service in the chapel to-morrow.

A full line of groceries at Purcell's. Call and see them. 31

Boots and shoes at low down prices at Purcell's cash store. 31

The Board of Regents will meet Tuesday evening, 7th inst.

Go to Purcell's for your coal oil. Only twenty cents per gallon. 31

John Bayless and Arthur Whitehorn, both of Manhattan, have entered College since our last report.

Mr. Geo. H. Failyer, our teacher of phonography, took a verbatim report of Dr. Kedzie's lecture last Monday. We shall publish it next week, not having space in this issue.

WANTED.—To rent houses near the College telegraph line. Persons having houses near the line to rent for next term of school will call on or address W. C. Stewart, Sup't Telegraph Department.

Dr. and Mrs. Kedzie left for home this week, carrying with them the best of good wishes from many friends both old and new. They haven't said so, but, from the nature of the case, they will arrange to make a longer visit next year.

The month of November just completed had an average temperature of 36°.48, which is lower by 3°.69 than the average temperature of this month at this station for the past fourteen years. Maximum temperature, Nov. 11th, 70°; minimum temperature, Nov. 28th, -2°. Rain-fall for the month, .32 of an inch, which is .96 of an inch below the average fall for this month. Average barometer for month, 28.81.

## The Entertainment.

The entertainment last Saturday evening was particularly good. We were too much pressed with work to spare the time and enjoy the pleasure of the exhibition, but a lady who is a competent judge in such matters pronounced it one of the best she has ever seen anywhere. The young ladies and gentlemen who took part not only received credit but deserved it; and both they and the ladies still further behind the scenes made many hearts happier on the last night of thanksgiving week than would have been the case had it not been for their kindly effort. We congratulate them all. A more detailed report will be found in the students' column.

We understand that some of the trundle-beds in size, not connected with the College, and just about four students who behaved as trundle-beds in fact, and who were old enough, long enough or fat enough to be more than trundle-beds, each and all of Manhattan, disturbed the audience occasionally by stamping. That sort of thing may be the fashion in town, but it has not been here, and as a correspondent in the Nationalist, after speaking heartily of the entertainment, well puts it, "they should learn to discriminate between enthusiasm and rowdiness."

While there is nothing morally wrong in such things, yet it is never the part of a gentleman to interfere with the pleasure of others. We are seeking in this Institution to develop self-government among the students in all matters which properly belong to them. They are not watched, they are not leashed by countless cords nor reminded of pupillage by repeated jerks. We don't propose to do either the one or the other. We rely upon their own sense of what is proper and improper, and upon the force of public opinion among themselves approving the right and scorning the wrong, for their government in such matters. And whenever any student becomes case-hardened against this influence, we will send him home. This entertainment was in the hands of the students, as many others have been and will be. It is their business to see that order is preserved.

For ourselves we want to say that the conduct of the students of this College is far ahead of that of any set of students we have ever known. They come for business, attend to business, and have every encouragement in and opportunity for harmless pleasure and solid fun. And we attribute this conduct and the rarity of cases really demanding discipline to the self-respecting spirit among the students themselves. We thank them for it, publicly and heartily. Matters that belong to you, we look to you for management; matters that belong to the Faculty for decision, they will attend to. A trundle-bed is a very good thing—for five-year-olds; it is too short for those large enough to attend a College.

## Students' Column.

The popular verdict regarding the entertainment given in the chapel last Saturday evening is that it was indeed a success. Half an hour before the time set for the exercises to begin the chapel was crowded and all were eagerly watching for the rise of the curtain. The entertainment opened with a fine tableau disclosing an angel pointing to a child in the attitude of worship, while afar off could be heard the chanting of the Lord's prayer. When the blue lights were added the scene was magnificent.

The audience was then treated to some scenes from "Rienzi." The play was divided into three acts, and the following were the characters: King Rienzi, L. B. Rogers; Claudia, Rienzi's daughter, Miss Ella Gale; Lady Colonna, Miss Esther Evans; Lord Angelo, son of Colonna, F. B. Quinby. The parts were all well executed, the players entering into the spirit of the piece and each showing that he had not only studied his character, but also the relation which it sustained to the other parts. The costumes worn were far ahead of what persons could be expected to prepare on such short notice.

After an instrumental and several songs and choruses, which were quite welcome and entertaining, came an acting charade. The subject was a word of three syllables, the charade contained four scenes, allowing one syllable to each scene, and the last scene for the whole word. The characters in the charade were as follows: Mrs. Grey, a fashionable city lady, Miss Jennie Mails; Evelyn, empty-headed damsel, and Mary, sensible young lady, both daughters of Mrs. Grey, Misses Hope Rogers and Melva Sikes; Hanson, well educated gentleman, G. A. Gale; Bwown, an ignorant fop, J. W. Rogers; "Dick," the mischievous boy, and son of Mrs. Grey, A. P. Fuller; Mr. Billington, an able (?) lecturer, A. A. Stewart. The word was Library, Lie-Bray-Rye. Neither time nor space will permit us to enter into details regarding this play. All did exceedingly well and certainly merited the applause which they received. The entertainment closed with a guitar duet, which was very well rendered by Misses Minnie Whitman and Alice Hibbard.

The only criticism we have to offer is regarding the noise made by some boys from town. We think it might have been omitted with better effect, and trust that future entertainments may not be afflicted with any such disturbance.

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Dr. Patee. 11-20

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GEO. W. MARTIN, Publisher. Topeka, Nov. 10th, 1875. 30-tf



[Concluded from first page.]

the most valuable and extended in existence. One of our own countrymen, Dr. Pugh, at one time president of the State Agricultural College of Pennsylvania, was for some time connected with them in the work. With the assistance and supervision of the eminent chemist, Dr. Gilbert, the investigations which have been here in progress have been not only deeply interesting to chemists, but in every way as valuable and important to practical farmers. Every experiment, while conducted with scrupulous care and nicety, is carried on in a style which is equally practical and comprehensive. Many of the absurd and visionary theories which Liebig was so fond of propounding to the farmers of Germany were quietly exploded by fair and impartial experiments upon this farm at Rothamsted. Of course but the merest outline of the many interesting features of this farm can be here given. Their experiments in the growth of the grasses for the production of hay are especially extensive. In these investigations they consider the hay as a crop and treat it as such and so startling are the results which they have obtained by the continuous use of particular manures for a long period of years, that their fifteen experimental grass belts, though stretching side by side, are as distinctly separated in color to the eye as if fenced off in as many different fields. I was here shown a clover patch which by careful treatment had grown a healthy crop of clover for the past twenty years without the least indication of "clover sickness." Their experiments on the growth and manuring of small grains of all kinds, especially upon a large number of varieties of wheat, have been carried on upon a vast scale and for long periods of years. The great length of time required to entirely exhaust the effects of even a single heavy application of manure was well shown in the case of a field of wheat which once manured had been successively cropped to wheat without any further fertilizing for fourteen years, and yet was constantly increasing in yield. It was estimated that at least thirty years would be required to completely exhaust the effects of this one application of manure.

The investigations here in progress upon the influence of rain-fall upon yield of crops, and of loss by drainage waters, are also very extended. An immense rain gauge, exposing a surface of the one-thousandth of an acre, is employed. By means of a circular pit carefully built up with masonry the drainage waters are collected in a large number of vessels and carefully examined to ascertain what loss or change of condition the plant food of the soil has undergone. The laboratory of the farm, in which Dr. Gilbert's work has been performed, contains over 20,000 bottles of soils, vegetable and animal products, etc., carefully labeled with results of examination. The work which has been accomplished at this farm at Rothamsted very justly ranks at the very head of all enterprises in experimental agriculture, and may well be a subject of national pride.

I can not close this necessarily brief account without expressing my firm conviction that in this extensive experimental work from which the agriculturists of Europe are reaping such incalculable good, there is much which we here in Kansas may study with great benefit. Any proposition to introduce these German experiment stations into this country has heretofore been scoffed at as impracticable because the methods of culture in the two countries are so wholly diverse. Such an objection seems wholly

uncalled for. These experiment stations of Germany devote themselves to that work which the agriculture of Germany imperatively needs. But for an experiment station in Kansas such work would be as wholly out of place as the introduction into our midst of the complex and expensive methods of European tillage. A Kansas experiment station when once established must devote itself to solving questions which vitally concern the needs of Kansas agriculture. Such questions usually involving some chemical consideration are daily occurring; and if for their solution such an experiment station could be established, very naturally under the direction of the State Agricultural College and in correspondence with your own office, there need be little fear but that its work and influence would be heartily valued and appreciated throughout the State.

Respectfully,  
WM. K. KEDZIE,  
Chemist to State Board of Agriculture.

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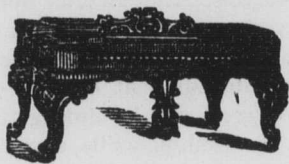
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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1. MANHATTAN, KANSAS, SATURDAY, DECEMBER 11, 1875. No. 34.

## THE INDUSTRIALIST.

Published Every Saturday,

BY THE

### PRINTING DEPARTMENT

OF THE

KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

#### Terms of Subscription:

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A. A. STEWART, Manhattan, Kansas.

#### Condensed Transportation.

[A lecture delivered before the students of the State Agricultural College, Monday, Nov. 29th, 1875, by Dr. R. C. Kedzie, of the Michigan Agricultural College.]

When I first came to your beautiful State, riding upon the Kansas Pacific Railroad, and viewing the rich valleys covered with fields of golden grain, and the high Kansas prairies yielding a scarcely less amount, I thought what can a railroad do towards transporting the crude agricultural products of a State? It is not much wonder that there should be such a search for railroads. This question of transportation involves many interests. Conventions are called, but they do not tell us how to solve it. The Hindoos have a method of representing everything by comparing it to a physical object; for everything is symbolized by them. Their symbol for hell is a stomach as big as a mountain and a mouth as small as a gimlet hole, and always hungry. By comparison, Kansas has a stomach as big as a mountain which is always full and must be discharged from a mouth the size of a gimlet hole. And how this vast amount is to escape is the question.

Kansas is the apex of the railroad pyramid. First, we have Kansas and Nebraska; then Minnesota, Iowa and Missouri; next, Wisconsin and Illinois, Michigan, Indiana and Kentucky; and, finally, Ohio, New York, Pennsylvania and Virginia, as we proceed to the east; each adding its choking volume to the swollen stream, and each furnishing enough work for all the railroads that check their surface with threads of iron. Standing on this apex, considering the transportation question, you see as you go east there is an increase in railroads, but also a still greater increase in products. Thus, when you come to transport these crude products, those from the east step in before you and you find that it is a hopeless problem.

But let us see what the proposed remedies for these evils are. First, a double line of

\* Reported by Mr. C. H. Fallyer, our phonographer, and greatly condensed.

steel rails extending from Kansas to the sea ports. But any one of these States would keep this double-track freight line busy the whole year. It is but a gimlet hole in the stomach. Transportation in bulk is but a delusion and a snare. If these railroads could "stretch out their arms like seas and grasp in all the shore," they would not be adequate to this problem, because it would be like carrying a continent on a single train. The remedy does not consist in multiplication of lines. I know scheming politicians and railroad lions are always talking of increased railroad facilities, because they have an eye on uncle Samuel's pocket-book, or seek to gobble up his wild lands. They are like the squint-eyed man who, in asking the blessing, kept one eye turned to Heaven and the other upon the platter. Suppose you could carry all the grain of the broad West to the eastern cities, and suppose the railroads would carry it for nothing, you would be no better off, for if corn could be carried there for nothing it would bring the same price there that it does here. They would not know what to do with it. You are no nearer the solution of your troubles. Eat it? They could not eat the tenth part of it. The whole country would die of dyspepsia. Increased facilities for transportation will not solve it. Railroads should be built as required by the demands of the country. Building on uncle Sam's pocket has "played out," to use an expressive western phrase.

Give up transporting your agricultural products in the crude form; the railroads cannot carry it, and you cannot afford it. Suppose you had a large field of corn and in order to carry this to the sea-shore you put it in the shape of shocks, and then curse the railroad because you cannot send it in this form. What are you going to do with the stocks and other refuse products in the city? You do not think of sending wheat in the sheaf to the eastern markets. Now go but a little further and you will find this problem easy of solution. Suppose you have a hundred bushels of wheat in the form best suited for shipping and suppose every bushel will make forty pounds of flour, giving enough offal to pay for grinding; and suppose you had your wheat ground, then you can send the same value in forty pounds as in sixty pounds of wheat. And when you manufacture your wheat into flour, you have it in the form required for consumption. Then condense your crops into small bulk for transportation. Feed your corn to cattle or hogs and send fifty-six pounds condensed to eight pounds. Suppose you have a certain amount of stock on pasture which will not go on the market as first class. Do not send it off now but feed your corn, giving it a finishing touch; it will sell better, and you can send your corn and it together in the same hide. Put both in a nutshell and send it east to be cracked.

One of the industries for which Kansas is peculiarly suited is sheep husbandry. There are but 100,000 sheep in Kansas, according to official records. Why, there ought to be that many in Riley county! In

another column I noticed that there are 70,000 dogs, less than a sheep and a half to a dog. The dogs will not be satisfied with that small allowance. It is said that a man will keep one dog and a fool five. Your dry climate, with plenty of range and little snow, just suits sheep. They will be free from disease, and the only drawbacks are coyotes, dogs and chigres; dogs are the worst. The difficulty consists in getting sheep and turning them out to take care of themselves. Sterne has said, "Temper the wind to the shorn lamb," but he knew nothing about Kansas winds. Young, healthy sheep should be purchased in the start, and they should be sheltered in the winter. These bluffs are just suited for sheep.

One bushel of corn takes four or five to send it to the eastern market. This bushel of corn may be condensed to one pound of wool, one-fifty-sixth as much, thus saving fifty-six hundred per cent on your freight. You can condense this more. The wool is generally sent east in the dirt; in washing it loses one-half. They of the east have no use for this dirt. Besides the extra freight, this assumes importance from a chemical view. This same material which is washed out in the east should be kept here. There are seven ounces of potash to the wool of each sheep. These alkali fields which are so plentiful in your State are soda and not potash. This material then which is found in the wool you should keep for your fields and save the transportation. You may say there is no market for washed wool, but there will be demand when it is in the market; and if the manufacturers at the east can be assured that your wool will be well washed and that you will deal honorably, they will buy it as soon as if it were in the dirt.

When hogs are butchered there is a loss of nearly one-third, and therefore nearly one-half more in value could be sent for the same amount of freight if the hogs were butchered at home. It is very important that you should send your products after butchering; the freight is less; the price may be down when you arrive at the markets, and from delay or other causes the stock may be too feverish or otherwise unsuitable for butchering at once, and must be turned out to pasture. All this is money out of the shipper's pocket. Condense your crops into meat and thus prepare them for the platter.

How shall we prepare meat that it will do for the eastern markets? According to experiments recently made by Prof. Gamgee stock may be butchered here and the meat shipped east. The animals are suffocated by means of carbonic oxide, and the meat as soon as it is dressed is left for twenty-four hours in an atmosphere of carbonic oxide. After the lapse of one week it is not to be distinguished from meat fresh from the shambles.

This question is deeper than feeding flocks. Your professor of chemistry has

(Concluded on fourth page.)



# THE INDUSTRIALIST.

SATURDAY, DECEMBER 11, 1875.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

The present Term of the Agricultural College began August 26th, and will close Thursday, December 23d. The Winter Term opens Wednesday, January 5th, 1876, and will close Wednesday, May 24th.

The State Horticultural Society will meet at Manhattan, Dec. 14th, 15th and 16th. The exercises will commence promptly at ten o'clock on the 14th, and three sessions will be held each day. An unusually full programme has been arranged and a good representation is expected from all parts of the State. Emporia did nobly in entertaining the delegates to the last annual meeting, and it is confidently expected that Manhattan will not fall behind on this occasion.

## The Place to Strike.

As farmers constitute two-thirds of the population and tax-payers of Kansas, why do they not insist that the district schools shall be run for the direct benefit of the sixty pupils who, when grown, will earn their living on the farm, instead of, as now, for the direct benefit of the three who enter professional life? In this country the right of the majority to have public expenditures made for the greatest good of the greatest number is unquestioned. And whatever may be alleged respecting the one hundred graded schools in cities, which may be claimed as more especially made up of "professional" pupils, no one can deny the justice of adapting the studies in the five or six thousand district schools to the wants of the industrial classes.

If the cities should attempt to take the road tax of the townships for building sidewalks, the farmers would very promptly secure the passage of a law preventing such injustice. They would properly claim that this tax should be expended on the roads in the district, and for the benefit of the property owners by whom it was paid, rather than for that of the people who lived in the cities. We can see no difference between this case and the expenditure of the school tax in giving an education which is directly shaped for the benefit of the professional and not for that of the industrial classes. If it is right that the road tax should be expended for the convenience of the farmer who pays it, certainly it is equally just that the district school tax should be expended in teaching that knowledge which is distinctively valuable to the farmer. Because a city wants gas lamps, it doesn't follow that a county road needs them; and because lawyers use Latin, it doesn't follow that farmers have any use for

it. No county would suffer its city to pay for gas works out of the county funds; and why the course of study in the district schools should be framed, as a flight of stairs, leading directly to the "professions" and away from the farm and shop, is one of those conundrums that isn't easily guessed.

## Woman's Industrial Education.

The world is so full of genuine women, guided by the noblest principles, and evincing an almost desperate eagerness to earn an honorable living for themselves, parents or little ones, that the necessity for an education different in this respect from that usually given to girls must be apparent to all. If viewed from the standpoint of actual instead of ideal life, the course of study followed in the average female seminary will logically appear as a standing wonder. It has been so long in use that the principle upon which it was built, and the end it was designed to attain, may fairly be inferred from the results actually produced.

Apart from an effort to discipline the mind, which can be as well done by the acquisition of useful as of useless knowledge, its chief purpose seems to be that of furnishing intelligent playthings for men possessing exhaustless wealth. Judged by its fruits, it evidently assumes that a woman's work mainly consists in discussing literature, smattering French, executing operettas and attempting to copy paintings without a knowledge of drawing. It assumes that the girl will not marry: or, if she does, that the strain of maternity will not test her constitution; that her children will never be sick; that her family will be oblivious to bad bread, worse coffee, and household confusion; that a flowerless garden will fill her husband with bliss, and a buttonless shirt with ecstasy; and, above all, that she will never, through any adversities, or under any conceivable circumstances, be required to perform any possible kind of work!

The world for which it prepares her is Dreamland, where the poetic Charles Augustus awaits her arrival that they may sail in a fairy ship over a placid ocean to his castle in Spain, and spend a perpetual youth in delicious wooing while the ceaseless moonlight sifts through overhanging leaves and exotic flowers perfume the air. Charles Augustus is a fraud! His true name is John Smith. He lives in Kansas and earns every cent by hard labor. He tears his clothes, snores, and eats unlimited quantities of pork and cabbage, which Mrs. John Smith may have to cook, and, at the same time, preserve order among an assorted lot of little Smiths, energetic with mischief and having capacious lungs and elastic stomachs.

It is not strange that the seminaries provide the usual course of study, for, like other merchants, they only supply the article demanded by the market. But it is strange

that a mother who was herself so educated, and who, as a wife and housekeeper, has keenly felt her own ignorance of subjects that should have been taught, and her want of skill that might have been acquired, can be content to give her daughter the same unreal preparation for that which she knows to be very real life. And it is exceedingly strange that fathers, long familiar with the distress suddenly wrought by financial changes, should religiously exclude from the daughter's education all knowledge of business, and every possibility of earning a woman's living except by the wash-tub, needle or piano.

It is impossible to determine just what work a woman will likely be required to do, and, therefore, impossible to decide just what knowledge and skill the girl should most seek. Ordinarily, she will marry: yet so various are the duties imposed by matrimony that this fact does not settle the question. Some wives are lifted by the husband's wealth above all household care, except that of general superintendence. Others, nobly impelled by love, are from the outset efficient co-laborers in acquiring the common property, his occupation deciding the kind of work for her, whether in the kitchen, dairy, office or store. Still others, whose husbands become helpless through sickness, dissipation or chronic worthlessness, are gradually forced to support the family by their own labor. While every person is acquainted with one whose girlhood was spent in luxury, whose education was exquisitely "finished," whose married life was free from all business knowledge or perplexity, suddenly hurled by the husband's death, with a bankrupt estate and a group of nestling children, to battle against the trained cunning and steeled avarice of soulless men for the mere crumb that prevents actual starvation.

Without raising the vexed question of woman's rights—whether the family is her proper sphere, or whether it be as broad as her success in professional and political life can make it—she undoubtedly has a right to be educated as a woman. She is not a man any more than a lawyer is a physician, and is as fairly entitled to special instruction as are they. The girl has a right to an education as precisely adapted to a woman's work as is the boy's preparatory to man's work.

## ALPHA BETA Literary Society OF THE Kas. State Agricultural College.

Organized, Oct. 17, 1868. Chartered, Dec. 26, 1870.

The society holds its sessions in the college building every Friday afternoon at two o'clock.

MISS NELLIE SAWYER, Pres.  
G. H. FAULTER, Sec'y.

## WEBSTER SOCIETY OF THE Kansas State Agricultural College.

Organized, Oct. 12th, 1868; chartered, Jan. 1871.

Motto: "Labor Omnia Vincit."  
Meets Saturday evening each week.  
L. B. ROGERS, President.  
F. O. HOYT Sec'y.







[Concluded from first page.]  
 been recently traveling through Europe, and he tells me that of all continental races the condition of the Italian is the most hopeless. Though the immediate descendants of the old Romans themselves their lower classes seem sunk to the lowest limits of degradation, and in good part from the constitution of their principal article of food—macaroni—starch. And a nation that eats starch will think starch. Give them better food and they will glow like anthracite, not flash like tinder. Beef-eaters shall hold this continent. They are the men of brains everywhere, and muscle, too, for that matter. It is an important study how to make a nobler race of the human race. An Englishman, who was a stickler of education of the old kind, once said in parliament: "Mr. President, I hope to see the day when every Englishman will read Bacon." John Bright arose and said: "Mr. President, I hope to see the day when every Englishman will eat bacon."

Another rule is to import nothing into your State which you can just as well produce at home. I do not refer to articles which grow in the tropics, or which can not be produced here. I called at a grocery in your town to buy specimens of such groceries as are imported which might just as well be produced here. I found that instead of buying groceries, I would have to buy a grocery. Here are green peas from Maine, almost to the sea. Will they not grow here? String beans from Baltimore. Can you not raise beans? Clothes-pins and matches from Michigan. They might both be produced here. But my greatest surprise was when I called for salt. Here is a specimen of salt which can be shovelled up in south-western Kansas; but, in answer to my call, they showed me sack salt from New York and barrel salt from Michigan. I found starch from eastern New York. You certainly have plenty of facilities for making starch when every bushel of corn contains thirty pounds of starch. But instead of producing it here, thirty pounds of starch are sent off in the shape of corn and one pound brought back in return. You might as well send your hens to New York to lay and have the eggs sent back. Why you might have starch factories to supply the world, and it would then be changed; you would send out one pound instead of thirty.

To recapitulate: The problem of transportation cannot be solved except by condensation. The products of this country can be concentrated into smaller bulk, and into a bulk which will demand a greater price. And do not import into your State such articles as you can yourselves produce.

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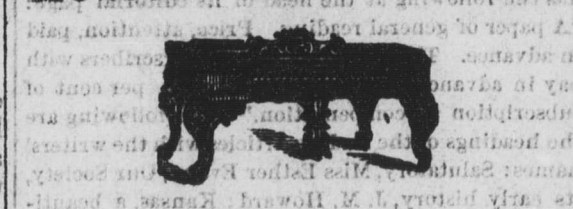
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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, DECEMBER 18, 1875.

No. 35.

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#### Woman's Industrial Education.

BY J. A. ANDERSON.

Another fact for the girl's consideration, in shaping her education, is that the greater the taste and skill needed for the production of an article, the less will be the competition between workmen, and, therefore, the higher will be the price paid for labor; and, too, the stronger will be the market demand for the article, if it is one generally used. There are thousands of women, barely making a living by the assiduous use of the needle, who, had they been properly taught, could earn twice as much in other ways. The time spent at our common schools in the study of grammar as a philosophy, geography as a mnemonic art, and a lot of sciences with no art about them, would more than suffice, while useful literary knowledge was also acquired, for thorough instruction in practical drawing; and for a paying drill in the use of the scroll saw, turning lathe, carver's and graver's tools. The first two can be driven with less effort than many sewing machines, which they much resemble; and the latter will be used with greater interest than the needle.

It is as easy to place an idea on a block of wood, as upon a sheet of paper; and not much more difficult to turn a vase, or engrave a leaf, than it is to represent them with the pencil. The product is worth far more in the market. As an illustration, take the manufacture of toys; for which there will be a demand as long as children have parents. In the saving of freight, alone, there is profit enough to make many a girl joyous, who now droops as an underpaid country school teacher. There is always a market for the articles prized by the housekeeper, both useful and ornamental; and the greater their beauty, the greater the demand for and profit on the labor. If our information be correct, nine out of every ten illustrations appearing in Harper's Bazar, and many of those in the Weekly and Magazine, are drawn and engraved by women; and any woman who will furnish publishers such blocks as those of Nast, can command Nast's annual \$25,000.

What possible right men have to monopolize the photographic business, is, from our stand-point, a dark and bloody mystery! Posturing, grouping, shading, timing, and chemical manipulations, are matters of perception, from first to last; which a woman ought to learn sooner, and do better, than a man, other things being equal. So, too, short-hand reporting. Quickness of ear and of pen, both exercises of perception, are its requisites. And as long as girls can be trained to read opera music, and strike chords upon the piano, at the rate of five hundred harmonious notes per minute, we shall vigorously believe in their ability to stenograph two hundred words a minute, with less practice and equal ease.

Mention might be made of many other modes of earning a livelihood, quite as "respectable" as that of the governess, more healthful and agreeable, and far more profitable; and, also, of many other facts which girls should regard in the selection of an industry. But enough has been said to indicate the leading principles, which, in our judgment, should underlie, and absolutely govern, the industrial education of women. We have purposely passed over many pursuits which are now commonly followed by females, because they are implied by the views presented, and because the positions advanced could be more exactly marked by illustrations taken from those industries which either man or woman can do.

If these principles be correct, it is evident that there will be far less clash between a "woman's" education, as contemplated by the first and second main groups, and a woman's "industrial" education, than might be supposed; and, certainly, far less between her education under the prevailing system and that needed by the industrialist. In fact, there is just as much clash, and not a whit more, than there is between the growth of a rose bush producing April leaves, and its June growth of flowers. The one is a necessary preparation for the other, and the other an inevitable consequence of the one. They are but different effects of the same power, acting under the same law; and the best culture of the young bush will give the greatest profusion of those shapely embodiments of tinted glory which the world calls roses.

It will be seen, too, that such an education has less in it that will be afterwards forgotten, and, therefore, that there never was any particular sense in getting; because, knowledge that is frequently used is always fresh in the memory. Also, that such an education is a better agency in "mental discipline;" because, if nature be followed, the elements which constitute womanliness will be developed in their native proportions, and along their own distinctive lines; resulting in more perfect specimens of the genus woman. We submit, for the most earnest consideration of educators and parents, the question: Did the Creator, in making the being called woman, do the best thing? If he did, is it not better for us to follow his lines? If he did not, does the experience of the past, in a fair effort to

make her a mental man, encourage the hope that we can materially improve upon either his ideal or his workmanship?

If it be the mission of colleges to do what the Almighty should have done but failed to do, we respectfully desire to quit. And, however much these, or any other criticisms of the prevailing system of female education, may be subjected to the charge of audacity, is not that system itself, with equal fairness, chargeable as a most audacious and arrogant criticism of the Creator? What practical household art does it teach? What womanly preparation does it give for the performance of the noblest function within the power of God to bestow upon humanity, that of seemingly creating life itself, and reproducing the generations? What practical drill in profitable work does it require? From first to last, its whole form and moving is against the idea that physical labor can be honorable in woman; or, that the necessity for marketable skill can ever crush down upon Hortense, with a force greater than that of the hydraulic press, compelling her to earn her own bread, or—die!

Perhaps the God who built the family for his school room; who assigned the daily duties of the family as his lessons; who appointed the world's demand for industrial work as his vigilant teachers; and the wages it pays as his reward; knew as much about the methods of education as do any of us! And, perhaps, the mental drill of industrial work-shops is, after all, quite as beneficial, wise and effective, as the man-made article put up and retailed in text-books! And, whether it be or not, which is the more important, that the woman should be "cultured" into mental masculinity and physical incompetence, or, into womanly power, intelligence and ability?

It is not a question whether women should marry the sturdy and resistless fact of work; she is already married thereto: the question is, whether it is better to make her bonds soft with love for labor, or attempt to obtain a divorce by that court which, years and years ago, made the decree, "In the sweat of thy face shalt thou eat bread." As a wife, many a woman would be happier in the use of industrial art, as a means of amusing her little ones and brightening her home; as a widow, she would most gratefully thank the giver of all mercies for her ability to keep or win a home. So that, whatever view be taken of such an education, it certainly cannot be worse, and it may be better, than the prevailing system.

Sooner or later, these principles, if true, will be adopted; and, when false, the truth will be found and substituted. It may be many long years before, as a people, we shall really substitute Mary for Hortense, as the object of our educational system; and more years, of struggle, experiment and achievement, before the appliances for training the former will equal those now provided for the latter. But it is only a matter of time, because a matter of right. One

[Concluded on fourth page.]



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SATURDAY, DECEMBER 18, 1875.

J. A. ANDERSON,  
Managing Editor.

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ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE present Term of the Agricultural College began August 26th, and will close Thursday, December 23d. The Winter Term opens Wednesday, January 5th, 1876, and will close Wednesday, May 24th.

## The Kansas Plan.

The course taken by this Institution is different from that of any other Agricultural College in the United States. We believe it to be the course which will best execute the spirit of the Congressional act creating these Colleges, and every year adds to the certainty of this faith. The Kansas plan is exciting a good deal of interest in other States; and from all quarters come assurances not only that, if the Institution has a fair chance, it is bound to succeed, but, also, that the Agricultural Colleges of other States will be forced by the practical farmers and educators to adopt the same policy. Recent correspondence shows that the interest taken in this matter is widening and deepening in other States. In reply to correspondents on this point, we report as follows:

The difference between our line and that of other Agricultural Colleges seems to be this: They take as an objective point the graduation of agricultural experts, who shall act as missionaries to working farmers. We take as an objective point the graduation of a capable farmer, able to make his living by farming. Their theory is that of the Normal School, training teachers who shall instruct scholars; our theory is that of training the scholar.

Along the mechanical branch, they seek to graduate master builders or superintendents of machine shops; we seek to graduate intelligent and skillful carpenters, masons or blacksmiths. They strike directly for those industries considered the highest, and believe that in reaching them they include all below; we strike for the industries most commonly followed in this State, and by successfully mastering them expect to climb up to the very rarest. Their mode may be best for them, and we are not in the least criticising it; ours seems best for us.

Kansas is neither New York, Massachusetts nor Ohio; and we shall not endeavor to reproduce their Agricultural Colleges. With us, where five agricultural scientists can make a living as such, five thousand capable farmers can far more than make a living; and where five architects or master mechanics can obtain employment, five times as many mechanics can command wages. We aim to provide a KANSAS State Agricultural College, for the practical education of those who desire to follow industrial vocations.

## Co-Education of Lawyers and Farmers.

From California, one of the largest and brainiest States in the Union, in which the Agricultural College endowment was given to the State University, we have the following inquiries:

"There has been a ponderous power in this State that has steered our University clear of the spirit of the Congressional grant, which in the main supports it. The Legislature and many good people have been misled by the constant representation that 'Industrial Colleges are practical failures.' You have in Kansas fought the battle successfully at last, and we want the result of your experience to assist us in waging the war here. Will you have the kindness, therefore, to answer the following questions:

1. What of the practicability of incorporating into Colleges practical industrial education?
2. What of the utility of a combined system of industrial and theoretical education?
3. What of the utility and general results of the admission and training of young ladies in your College?"

1. With respect to the feasibility of incorporating practical industrial education into Colleges, our answer would depend wholly upon what is meant by the word "Colleges." By that term people generally designate such institutions as Yale or Harvard, which are intended to furnish an education for the "learned professions." In fact, when the masses speak of an "education" they only mean that training which is thought to give the best preparation for the work of the lawyer, doctor, minister or teacher. Doubtless this is the sense in which our correspondent uses the word. If so, we have no hesitation in expressing the conviction that an industrial education cannot be successfully given in such a College. This conviction rests upon two beliefs. First, the failure of the richest and oldest institutions of America, under the guidance of the best professional educators, to give either the farmer or the mechanic that ability which enables the graduate to command the same wages that farmers or mechanics do command who have served their apprenticeship, during an equal period, on the farm or in the shop. There is no use in denying established facts; and if the experience of those colleges which have attempted to run these two educations hand in hand has not demonstrated the impracticability of such an experiment, then nothing can be demonstrated as a failure.

The second reason is that, from the very nature of things, the two educations are as dissimilar as is plowing from a surgical operation. And for exactly the reason that a farmer should be as well educated as is a surgeon, he ought to have a different education; one radically different, since his work is radically different. Now, no institution either can or will shape its methods so as to furnish these two dissimilar educations. Theoretically, the management may attempt so to do; but, practically, it can't be done.

Either the professional or the industrial element will be the stronger, and the stronger will insensibly guide the helm. And even were this not the case, the pupils themselves would defeat the attempt. Charles Augustus, congratulating himself that the profession of his choice required no manual labor, would stiffen his backbone a little, throw back his head a little and look considerably more owlish than usual, when he met Tom Brown holding the plow or John Jones making horse shoes. In an institution where everybody has to work, no tea-kettle is apt to turn up its nose at a gridiron because the latter is sometimes sooty. It isn't a good plan to attempt the manufacture of white paper and of steam engines in the same room. And no more sensible is the plan of educating practical machinists in a Greek recitation room. No matter whether, in Utopia, this state of affairs might be different, it is not different in American Colleges. There is an immense amount of codfish superciliousness and petrolian baboonery in America; and the training of colts for the farm and of canary birds for the parlor can be better conducted in separate establishments.

But, if the question be whether it is practicable to give an industrial education, one having a cash value, in a College manned, equipped and conducted for that purpose, we have no hesitation whatever in saying that it can be done and is being done in Kansas. The U.S. Government throws out of the West Point course all those branches for which officers have no use; so does a master carpenter omit from his directions to an apprentice those facts which a carpenter does not use; both teach the knowledge which the respective apprentices will need. Everybody admits that West Point furnishes a military education, and that the best mechanics of the country have been educated under the apprentice system. Why, then, cannot farmers be practically educated for farming in a College conducted for that purpose on the ordinary rules of common sense?

We shall refer to the other points in subsequent articles.

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Topeka, Nov. 10th, 1875.

30-1f



# THE INDUSTRIALIST.

SATURDAY, DECEMBER 18, 1875.

## Meteorology.

For the week ending Dec. 9, 1875. Condensed by Prof. Kedzie, for the Industrialist, from the records of the Chemical Department:

DAY OF WEEK.	Thermometer.			Bar.	Rainfall in in's.
	Max	Min.	Me'n	M'n H't.	
Friday.....	57°	39°	49°	28.80	.15
Saturday.....	60	39	51 $\frac{2}{3}$	28.60	
Sunday.....	54	22	48 $\frac{2}{3}$	28.47	
Monday.....	31	16	27	28.59	
Tuesday.....	35	16	27 $\frac{1}{3}$	28.64	
Wednesday.....	37	14	26	28.78	
Thursday.....	47	15	34 $\frac{1}{3}$	28.76	
Average temperature for the week, 37° 85.					
Range of " " " 46°.					
Average barometer " " 28.69.					
Per cent of cloudiness " " 68.					
Rain-fall " " .15.					

Clothing at low down prices at Purcell's. 31

A full line of groceries at Purcell's. Call and see them. 31

Boots and shoes at low down prices at Purcell's cash store. 31

Go to Purcell's for your coal oil. Only twenty cents per gallon. 31

We have received from the Bureau of Education the Commissioner's report for 1874.

Going to press earlier than usual this week prevents us from obtaining the Meteorological Report.

We are indebted to Senator Ingalls for a copy of the U. S. Coast Survey during the year 1871, just issued.

The Hon. W. A. Phillips will accept our thanks for the annual report of F. V. Hayden, U. S. Geologist, for the year 1873.

We will send the INDUSTRIALIST to any student during the Christmas vacation for five cents, we paying postage. Call and leave your address with A. A. Stewart.

FOUND.—In the telegraph room of the Mechanical building, a sleeve-button. The owner can have the same by calling at this office, proving property and paying charges.

Regents Salter, Rogers, Kingsbury, Folks, Lawrence and Adams gave themselves the pleasure of a call on the INDUSTRIALIST last week, and by so doing gave it a greater pleasure.

Prof. C. V. Riley, State Entomologist of Missouri, gave us a pleasant call. He was attending the Horticultural Society, before which he delivered an exceedingly interesting lecture.

WANTED.—To rent houses near the College telegraph line. Persons having houses near the line to rent for next term of school will call on or address W. C. Stewart, Supt. Telegraph Department.

Mr. Corydon S. Richmond who was injured by being thrown from a wagon a few days ago, is rapidly recovering and will soon be out. The confinement has been especially irksome to him as he is an earnest student and active worker.

The State Horticultural Society met at Manhattan this week, and has had an unusually interesting session. Thursday morning the Society visited the Agricultural College, going through all the departments. We only regret that their visit was so brief; and hope that the gentlemen will come again and make a more extended visit. We hope to get the proceedings for next issue.

The meeting of the Board of Regents last week was the longest and most thorough which has been held within our experience. The sessions from Tuesday evening till Saturday night extended from 8:30 to 11 P. M., with a scant hour's recess for meals. The Board adjourned Monday morning, 13th. The annual reports were received from all the officers, and the wants of the several departments were fully considered. Every Regent was present.

The final examinations of the present term will be held as follows:

The classes which now recite at the first hour will be examined on Monday morning from 8:40 to 10:20; and those which recite at the second hour from 10:20 to 12 M. On Tuesday, the third hour classes will be examined from 8:40 to 10:20; the fourth hour classes from 10:20 to 12 M.; and the fifth hour classes from 2:00 P. M. to 3:40 P. M. This arrangement of course includes both the literary and industrial examinations. In case any of the classes have not been examined by Tuesday evening, either in the literary or industrial departments, Wednesday morning will be used for that purpose. The term will close Wednesday evening. Merry Christmas to all.

Mrs. Werden hands us the following:

It is an established fact that to obtain flexibility in the fingers is one of the most difficult points the musical student has to master. The daily drill that is given this study at the Agricultural College is rapidly overcoming this obstacle. It includes a course in Harmony, consisting of written exercises upon the blackboard with practical studies in Thorough Base; two lessons in Instrumental Music and one in Harmony each week. No lessons will be made up or money refunded only in exceptional cases. Two fine Pianos and one Organ are furnished for practice. The only charge is \$1.00 per week, paid one-half term in advance. Those who wish to enter this department should be present the first day.

Senator Harvey, former Regent of this Institution, has again placed it under obligations by forwarding the following governmental documents, for which he has many thanks:

The Congressional Record, containing the proceedings and debates of the Forty-Third Congress, second session, four volumes; The Cholera Epidemic of 1873 in the U. S., by Surgeon J. M. Woodworth, 1875; Statistics of Mines and Mining in the States and Territories west of the Rocky Mountains, by R. W. Raymond, 1874; Report of the Commissioner of Agriculture, 1874; Smithsonian Report, 1874; Report Commissioner of Education, 1874. United States Coast Survey, 1871, just issued; Army Register for January 1875; Navy Register to January 1875; Public Laws of the United States passed at the second session of the Forty-Third Congress; Memorial Addresses on Senator W. A. Buckingham. Memorial Addresses on Representatives John B. Rice, of Illinois; Alvah Crocker, of Massachusetts; Samuel F. Hersey, of Maine; and Samuel Hooper, of Massachusetts. Messages and Documents: Department of State, 1874-75; War Department, 1874-75, three volumes; Interior Department, 1874-75, two volumes; Reports of Secretary of the Navy, Postmaster General and Attorney General, 1874-75; Statistics of the Commerce and Navigation of the United States, 1874; Commercial Relations, 1874; and the Report of the U. S. Commissioner of Fish and Fisheries, Part II., 1872-3, Fresh Water Fisheries of the U. S.

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[Concluded from first page.]

effort after another may fail, and one set of men after another fall; but the Marys will remain. And there is too much cheery sympathy with the brave toilers for self-support—there is altogether too much of that spirit which grew into the world at the carpenter's bench of Palestine, making the impotent to walk and the lame to leap—ever to allow the continued perversion of the congressional endowment from its true design, or ever to rest content with less than the full accomplishment of a purpose so humane and godlike.

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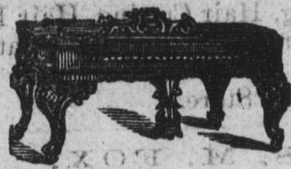
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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

Vol. 1.

MANHATTAN, KANSAS, SATURDAY, DECEMBER 25, 1875.

No. 36.

## THE INDUSTRIALIST.

Published Every Saturday,  
BY THE  
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OF THE  
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### Proceedings of the State Horticultural Society.

The State Horticultural Society convened at the Presbyterian Church, Tuesday morning, Dec. 14th. President Gale in the chair. The session was opened with prayer, by Rev. Wake.

The address of welcome was deferred until evening, and reports of committees called for. Mr. Fred Wellhouse, of Leavenworth, chairman of committee to amend article third of the constitution, offered resolutions which, after some discussion and amendment, were adopted in the form here presented:

1. Resolved, That all ladies be entitled to a membership in this society free.
2. Resolved, That two delegates from each District Society, and one delegate from each Auxiliary Society, organized under the State law, be entitled to an annual membership, free.

G. C. Brackett, Secretary of the State Horticultural Society, made his annual report which, was full, business like, and was unanimously accepted.

Prof. Kelsie, who has been a member of this Society for years, but has removed to North Carolina, was remembered in the above report, and a suggestion made that an expression of the continued esteem of the Society be tendered him, and a committee, consisting of Messrs. Parker, Wellhouse and VanDeman, was appointed to draft resolutions to that effect.

Afternoon session.—This was mostly taken up with reports of committees and discussions arising therefrom.

### VEGETABLE PHYSIOLOGY.

The report of the standing committee on botany and vegetable physiology, VanDeman, chairman, was quite interesting. He had come to the conclusion that the reason of so many trees dying was attributable chiefly to two causes: first, by freezing in winter; second, by drouth in summer. This paper provoked a spirited discussion, which consumed the entire afternoon session.

Mr. Gale thought the first cause of death

to be a too sudden check to the circulation by the locust defoliation, causing immediately a scalding of the trees at the collar, leaving the roots entirely dead, while the sap in the top caused a putting out of new growth even after the roots were quite dead. Further thought the condition of the subsoil of Mr. Grubb's land had much to do with his trees dying; it being a stiff clay which would admit of no moisture coming up to the roots, they must depend upon being fed from the surface; this being denied, they would of course suffer.

Mr. Wellhouse thought that a too close proximity of forest trees to fruit trees was injurious.

Mr. Tweed thought defoliation the prime cause of death in his trees.

Mr. Wilson thought the drouth fixed his. L. M. Hill, of Hill Spring, said he saved one hundred peach trees, that were six and seven years old, laden with fruit when the locusts put in appearance, by smoking them out. A constant smoke was kept up until they left. Other trees that were defoliated by them died; vines also.

Rev. Parker had tried smoking them out, but they refused to depart, and he quit smoking. Thought if he had begun earlier it might have been better.

Col. Lines has a fine orchard of bearing trees; thought protection essential to some varieties and to others detrimental.

Geo. C. Brackett has his orchard well protected with four rows of maple trees forty feet high, and the Red Pearmain, a very tender variety, has done finely there; out of a large number of trees but three were injured by drouth, locusts, etc.

Mr. Deming thought age and their being well established, had much to do with the successful growth of Mr. Brackett's trees.

This discussion, owing to the lateness of the hour, was reluctantly closed for the transaction of other business.

Committee on fruit, consisting of Col. Lines, Dr. Stayman and L. M. Hill, was appointed. Also committee on final resolutions, composed of Messrs. VanDeman, Cutter and Deming.

An invitation to visit the Agricultural College was extended to the Society by John A. Anderson, President of the College, which was accepted for Thursday morning at eight and a half o'clock.

Evening session.—The exercises were opened with excellent and appropriate music by a quartette, consisting of Prof. Platt, Mrs. Werden, Miss Mudge and Mr. Smith, who, with the spirit of kindness which is natural with them, lent their musical talents to the public on this occasion, much to the delight of all.

The opening address of welcome by Rev. R. D. Parker, was greatly enjoyed by all, the only objection was its brevity; we are quite sure the audience felt like asking (as did Oliver Twist) for "more."

Prof. C. V. Riley, the celebrated entomologist of Missouri, was called upon in regard to the locusts. He thought there would be an exemption from their invasions

for five or six years, and probably longer. He termed the locusts red legs, but a lady near us said she thought them regular black legs, as they were mean enough to take everything a person had.

Prof. Ward's lecture, address, or paper, call it what you may, was certainly an able and instructive effort; being mainly statistical, and derived from reliable sources, it will be found essential to horticulturists for reference.

A discussion arose at the close of the lecture, and Secretary Brackett was called upon to give his experience, which he did, in a few interesting remarks. He felt encouraged to believe that the time was coming when intelligent horticulture would succeed in this State. Thought we were lacking in an early variety of summer apples. That there were but two or three fall varieties that were really excellent, viz; the Maiden's Blush, the White Bell Flower and the Pennsylvania Red Streak. Winter varieties he confined to Rawle's Genet and Winesaps.

### FENCES.

Wednesday morning session.—After some preliminary business, Mr. Wellhouse, of Leavenworth, made a report in behalf of the committee on fences, and we soon discovered that his committee was not in favor of fences at all, but considered the herd law the alpha and omega. The report was very interesting, giving the best arguments in favor of their view of this herd law question, which is of so much interest to the people of Kansas at this time.

### VEGETABLE GARDENING.

Dr. Stayman, chairman of standing committee on vegetable gardening, read an essay on that subject, which evinced care in preparation and a thorough understanding of the subject.

Quite a discussion arose as to the relative value of different vegetables, which was participated in by Messrs. Wells, White, Cutter and others.

### SMALL FRUITS.

Afternoon session.—Report of standing committee on Small Fruits was made by Mr. Melliken.

Strawberries suffered greatly the last two seasons; Wilson's Albany the best; advocated the matted row system, allowing the runners to set the latter part of summer and turning the old plants under, thus securing young, vigorous plants. Kittitany blackberry good and reliable; Lawton, ditto. Raspberries advised as profitable, as they can be dried easily. Houghton gooseberry thought to be the best. Mr. VanDeman thought those who tried to raise strawberries would earn them; had thirteen plants of the purple huckleberry which yielded four bushels the past season; thinks them quite an acquisition to small fruit in Kansas. Dr. Stayman had not found the huckleberry profitable.

This discussion was followed by the President's annual address.

[Concluded next week.]



# THE INDUSTRIALIST.

SATURDAY, DECEMBER 24, 1875.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE Winter Term of the Agricultural College opens Wednesday, January 5th, 1876, and closes Wednesday, May 24th.

Some two years ago a great cry was raised by the California papers over a fleece of wool, of sixteen months growth, weighing 51½ pounds, sheared from a French merino ram, the property of Mrs. Robert Blacow, of that State. To gratify the curious and convince the incredulous East, the fleece was shipped to Chicago in 1874 and submitted to the Illinois Wool-growers' Association. By the Association it was submitted to a committee of practical wool-growers whose report is before us. From this document we make the following extract: "The weight of fleece before scouring was 50 pounds. It was put through two sieves. The first reduced the weight to 13½ pounds. It was not clean. We ordered the second and it is now well scoured. The present weight is just 12 pounds; yet the committee believe there are two pounds of burs in it now." After this we expect our California friends will have little more to say about the "big fleece."

This season of the year is usually counted far from a busy or profitable one to the prairie farmer. That it need be so we very much question. There are a hundred odd jobs upon every farm that must be done during the year, and which if not looked to now will interfere materially with seeding and harvesting next season. Suppose we make a tour of inspection over the farm. There are fences and buildings needing repairs; that plow should be scoured bright and then receive a coat of tallow; broken parts of the harvester should be supplied; hoes, spades and shovels may be ground and put in repair much cheaper now than next May; cultivators, rakes, and even the harrow will bear a little close scrutiny at this season. Now all these are small matters, but if, for instance, the harvester is discovered out of repair next June when four or five "hands" are waiting for grain to bind, the mishap will seriously affect the profit and loss account.

Above all, devote a portion of these long evenings to retrospection and to planning for the future, and look to it that the mistakes of 1875 are not repeated in 1876.

MANY have a vague idea that because the thermometer for the next three months will range close to the zero point, animals need much less water than during the blaz-

ing summer months. The truth is, animals usually suffer infinitely more from thirst in winter than in summer. This will be easily understood when we remember that during the winter months they are fed extensively dry foods, and during a good deal of this time the springs and small streams are locked in ice. Moreover, our winter months are usually much drier than those of summer. Any one capable of understanding the inarticulate language of brutes will see something of their sufferings by noticing, at this season of the year, large herds of cattle pacing with feverish anxiety around their summer watering-places now imprisoned in ice.

There is another matter somewhat nauseous, but none the less pertinent in this place. Our cows, driven by insufficient food, have acquired tastes which ought to disqualify them for furnishing the milk for the family. During the winter months the chief business of these poor animals seems to be to wander from one dunghill to another, gleaning the unsavory morsels by the way. Any one who can eat the milk formed from these disgusting materials, without a mental protest, must be callous indeed. With hay at four dollars per ton, and corn at twenty cents per bushel, there certainly is no excuse for this, and we cannot resist the inquiry, whether after all in matters of diet, we are much in advance of the puppy-eating Chinaman.

## Relative Value of the Breeds.

"Now, you have all these breeds of cattle here, and have tried them several years, which is the best breed?"

In some such form as the above this question is put to us by a majority of our farmer friends visiting at the College farm. It is not surprising that men who have never given stock matters special attention should be dazed by the rival claims of the breeders of the different breeds of live stock. The shorthorn man is positive that his favorites are best of all, and in proof he points with pride to their increasing popularity, and the enormous prices paid for them in recent times. The breeder of Herefords openly challenges the Shorthorns, and the breeder of Devons or Galloways is defiant of all the rest. Now, all this is wrong, and we believe the result of a misapprehension. Originally, there was no rivalry between these breeds, and there is little now, the only exception being those breeds which, very unwisely in our judgment, have lately been bred towards the Shorthorn standard.

British cattle are divided into two great classes, milk breeds and beef breeds; the Jerseys, Ayrshires and Polled Suffolks largely representing the former; and the Herefords, Shorthorns and Galloways, the

latter. To these two classes we might at one time have added working cattle, represented by the North Devons; but of late years the breeders of Devons have worked almost solely with reference to the production of beef, and as a result their working qualities are less positively known than formerly. If we should ask the question, which is the better, Jerseys or Herefords, we should be guilty of a very great absurdity, because the Jerseys have been bred with reference to the dairy alone, while the Herefords are as positively developed as beef producers. This question, which is best, can only be answered so far as it relates to you, your surroundings, your condition as to soil, climate, proximity to water, and the score of matters that concern you and your farm. In short, this word "best," when applied to breeds of domestic animals, has a relative, not an absolute sense. That breed which is best in Illinois may be the worst in Kansas, and, again, that breed which does admirably upon the abundant pasturage found along the Mississippi river, might make a complete failure on the scanty grasses growing on the "divides" of western Kansas. All these varieties are developed for some special work, and just so far as a breed is thus developed it fails in other qualities. One quality or tendency is developed at the expense of others deemed less desirable. Thus the Jerseys are generally excellent milkers, but notoriously they refuse to take in flesh; the Shorthorns and Herefords, again, although originally excellent milkers, are now rarely so; and breeders of these animals are abundantly satisfied if they raise their own calves.

Even among the different varieties making up the "milk breeds" or the "beef breeds," anything like rivalry can hardly be said to exist. The milk of the Jersey is famous for the abundance of oily particles which it contains and the golden color of its products, but the milk of the Ayrshire is no less favorably known for its abundance and the large quantity of cheesy matter which it holds in suspension. The large frames and quiet dispositions of the Shorthorns suit these regions of abundant forage; while the light, active frames, combined with excellent feeding qualities, enable the Devons and Galloways to take in flesh rapidly, even where they are forced to travel several miles each day in order to get sufficient food. The moral of all this, it seems to me, is very plain. Before "going into" any particular breed, consult your wants and tastes, the length of your purse, the condition of your farm, your convenience to markets, and then decide upon the breed because of these facts, and not because it happens to be fashionable or because some breeder tells you it is the "best."—[Prof. Shelton.]







## THE INDUSTRIALIST.

SATURDAY, DECEMBER 25, 1875.

The total cost of the Governor's office since Kansas became a State, up to November, 1875, has been \$87,696.63; of the Secretary of State, \$138,016.21; of the Auditor, \$62,208.98; of the Treasurer, \$59,488.90; of the Superintendent of Public Instruction, \$88,384.36; of the Judiciary, \$480,340.19; of the Legislative department, \$488,093.20; of Printing, \$501,756.38; of the Capitol grounds, \$507,939.87; of the Penitentiary, \$906,940.20; of the Deaf and Dumb, \$151,088.76; of the Agricultural College, \$129,648.32; of the Normal Schools, \$206,229.24; of the Insane Asylum, \$338,786.10; of the University, \$202,978.74; of the Blind Asylum, \$90,969.31; of the Board of Agriculture, \$29,540.98; Miscellaneous, \$418,489.51. Grand total, \$4,783,615.81.—[Topeka Commonwealth.]

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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

Vol. 1.

MANHATTAN, KANSAS, SATURDAY, JANUARY 1, 1876.

No. 37.

## THE INDUSTRIALIST.

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BY THE

### PRINTING DEPARTMENT

OF THE

KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

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#### Proceedings of the State Horticultural Society.

[Concluded from last week.]

##### PRESIDENT'S ADDRESS.

He spoke highly of the Douglas County and South-Eastern Horticultural Societies; and other local societies are destined to become feeders of the State Horticultural Society, and have a great work to do. To make this work successful, stations of observation should be established where the horticulturists of the State can get down to the hard-pan of a theory through experience. Advised the consideration of the Society upon the expediency of establishing experimental stations in Kansas. Said the poetry of fruit culture had been set to dull music for the past two years, but in some respects we might regard our failures as a blessing. We do not need theories; we have found the books published for use in Europe are but blind guides; we must exchange ideas and experiment. We do not need theories; we need some practical common sense, a faculty to dodge humbugs, and an unswerving faith in the climate.

Secretary Brackett moved that a committee of three be appointed by the chair to take the address of the President. Committee appointed as follows: C. B. Lines, R. D. Parker and B. F. Mudge.

Election of officers ensued. The Secretary was instructed to cast the ballot of Society for the following officers: President, Prof. E. Gale; Vice-President, Mr. Milliken; Secretary, G. C. Brackett; Treasurer, Fred Wellhouse. Trustees, Geo. T. Johnson, Lawrence; H. E. VanDeman, Geneve; B. Skeels, Galesburg.

##### FOREST CULTURE.

President Gale made report of committee on forest tree culture. Advised close planting for mutual protection, for economy in culture; from it we receive speedy returns for our expenditures; and several other reasons. Thought our timber law more injurious than beneficial, on account of spreading it out over too large an area of land. Trees thus planted do not serve the purpose of a forest but an open orchard,

and the timber act will not be complied with, as but few are able to plant forty acres and cultivate properly; suggested a careful investigation of the subject.

Dr. Sternberg thought a man would have to pay more for planting and cultivating than the land would cost; thought the tree act should be repealed or modified.

##### ENTOMOLOGY.

Prof. C. V. Riley, having placed charts upon the wall, proceeded with a very instructive lecture upon entomology. We were not a little amused to see the enthusiasm manifested in his subject, his face beaming with animation, his eyes sparkling, his manner eager, enthusiastic intense, and all about the crooked snout of a beetle. For our part we don't care whether the snout is straight or crooked, we know it destroys our fruit and, without being painfully minute, we would advocate capital punishment for the beetle and some kind of punishment for those who allow them to infest their trees. The Professor thought it a good plan to pay a premium per bushel for locust's eggs; recommended perpendicular ditching, two feet deep and same wide, as an effectual protection from wingless locusts.

At the close of the lecture, Dr. Stayman, who is said to act as a counter-irritant upon the Society, took issue with regard to ditching being an effectual remedy against invasions of wingless locusts, and a lively discussion took place, after which, like women, they were "still of the same opinion."

##### EXPERIMENTAL STATIONS.

Evening session.—Prof. Kedzie gave a lecture on establishing experimental stations in Kansas. These stations in Europe were under the direction of the several governments, and must yearly give the result of each experiment, which is published in an annual report. Like stations are needed here to develop our resources, which are of untold value; the gypsum, plaster, etc., with which this State abounds, should be utilized. Establish such a station at the Agricultural College, and let the fruit-growers organize into sub-stations. Experiments could then be made, our soils tested, and the results available to all.

Prof. Riley thought there would be no difficulty in obtaining the necessary aid from the government, and corroborated what had been said.

##### PROTECTION AGAINST INSECTS.

Prof. Snow followed with an interesting dissertation upon insects; gave a large number of those which infest our grains, fruit, etc.; and exhibited a string of beetles ten feet long, containing 1,001 beetles, caught at the noon hour by the little son of a gentleman present. The Professor thought every man ought to be compelled to kill flat-headed borers; parasites should be introduced to destroy beetles, etc. A State entomologist should be appointed; a law passed for the protection of birds. Thought a great step in advance would be the placing of the study of insects in the hands of

our children; let them learn to distinguish between the friend and foe among the insects.

Thursday morning.—The Society visited the College; seemed well pleased with what they saw, and returned to business at ten o'clock.

The matter of permanent location of the Society was referred to the following committee: Dr. Sternberg, Harker; R. Milliken, Emporia; A. Shinn, Fort Scott; E. H. Taylor, Beloit; F. Wellhouse, Leavenworth.

W. Marlatt gave a talk on the feasibility of tree planting. Planted walnuts just as he does corn; prepares the ground just as he does for corn. Does not know of any insect injurious to the walnut. Would recommend cottonwood for wind-breaks, with box-elder on either side, as the elder branches are low, making an effectual shelter. Thought wind-break particularly beneficial in catching the snow and thus securing more moisture. Would not advise cottonwood for wind-break for orchard, but would have shelter on all sides. The low heading of trees preferred. Trees bring birds in the summer; their singing in the trees is very beautiful, poetical and all that sort of thing; but they are death on grapes.

At the close of Mr. Marlatt's talk, Prof. Snow read a paper, by Maj. Hawn, on meteorology. It was replete with scientific research. He thought, while the temperature undoubtedly affects the fruit buds, that the strong winds which blew so continuously last spring, during the time the trees were in bloom, had much to do with non-fruitage, the pollen being carried away.

Afternoon session.—The Secretary read an essay on floriculture, prepared by H. W. Murtfelt, of St. Louis, who was unavoidably detained at home. The thanks of the Society were tendered him, after which Rev. Parker made the report of committee on President's address. Having given that part of it relating to the establishment of an experimental station, and recognizing the magnitude of its importance in this work, they embodied their conclusions in two resolutions to this effect:

Resolved, That the Kansas State Legislature should provide for the establishment of an experimental station in this State, located, controlled by, and under the direction of the State Agricultural College.

Resolved, That this Society appoint a commission to take immediate action in this matter, establish a series of experiments, investigate the best means of bringing about this desirable end, and eventually bring it before the Legislature.

After some discussion the motion of Mr. Fred Wellhouse was adopted, to-wit: That Messrs. Gale, Lines, Parker and Brackett comprise that commission.

##### TREE CULTURE UPON THE PLAINS.

Lecture by Dr. Sternberg, of Fort Harker, upon "Tree Culture upon the Plains," was very entertaining. Notwithstanding many discouragements he was satisfied that trees could be grown on the plains; thought much destruction to timber was done by prairie fires; the stock interest is being

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, JANUARY 1, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## Concerning Sorghum.

Early in the month of September last, a letter from a successful farmer in Woodson county, formerly a student of this Institution, contained the following:

"What, in your opinion, would be the success of the experiment of topping the common sorghum cane as soon as it has headed, thus preventing the formation of seed? Would the yield of true sugar be increased; or, if not, do you think the method would increase the yield of syrup? I am trying the experiment, but the cane on which I am experimenting has been but poorly cultivated, and I must from necessity depend on others for the manufacture of the syrup."

To which, reply was made that the method of "topping" sugar cane employed by many sugar-growers of the south would undoubtedly be followed by equally beneficial results when applied to our common sorghum. That the yield of syrup would be undoubtedly increased by such a process, but that the problem of obtaining sugar therefrom would be another and much more delicate question.

The results of the experiment proposed above are reported to us as follows:

"The sorghum experiment has been completed. It yielded eighteen gallons per wagon load, or about double the average yield of cane worked by the same establishment, which has made upwards of three thousand gallons this season. The quality was the best they had made. The juice, tested by the saccharometer, was not above the average sweetness, (density,) but was double in quantity."

The above result is certainly very gratifying, and would seem to indicate that general adoption of the method could profitably be made by sorghum-growers generally. The production of sugar from sorghum syrup is, however, as already intimated, entirely another question. It is well known by chemists that the juice of the sorghum contains a comparatively small percentage of true crystallizable or cane sugar; rarely over nine per cent; while the juice of the true cane affords twenty per cent of true crystallizable sugar. But the very rough and rapid process of boiling to which the sorghum juice is generally submitted, most effectually prevents the crystallization of whatever true cane sugar it may contain. By this process of "hard boiling," the percentage of good crystallizable sugar present becomes converted into a totally uncrystallizable sugar, and is thus lost beyond all hope of recovery.

It is as yet by no means established that, by the employment of the best methods and the best apparatus in sugar manufacture, by careful and cautious boiling—perhaps

in "vacuum pans," and by equally careful clarifying, good sugar may not yet be made from sorghum cane. But, however that may be, this much is certain: the use of these improved and by no means expensive methods would give us a clear, palatable, fine-flavored syrup in place of the dark, repulsive "gross-flavored" mess which now drugs the market.—[W. K. Kedzie.

## Editorial Correspondence.

PARSONS, KAS., Dec. 27, 1875.

EDITORS INDUSTRIALIST:—No one who knew Kansas ten years ago can take a trip in any direction without being amazed at the wonderful development of this State. We have made the country ring with the misfortunes of Kansas; but, if we look at the aggregate result of ten years labor, we shall not only be ashamed of complaints but be forced to drown every murmur with shouts of praise.

Six years ago we came down the Neosho Valley behind a pony team, and to-day we have ridden over the same valley on the Missouri, Kansas & Texas Railway, in company with one of their obliging and gentlemanly conductors, who knows how to make his passengers feel at home. Looking back over the road we feel that great as is the contrast in travel, the contrast in development is even greater. Then, the red man had not left the valley; to-day, tokens of the highest culture, social and moral, and marks of material success and plenty, are seen everywhere. We noticed in all directions a broad acreage under the plow; long cribs of corn; and, what appeared to us as important as either, long ricks of hay, which must represent, for some years at least, a large percentage of the wealth of Kansas.

As we move south from Manhattan the fruit interest seems to have suffered much less than with us from the combined misfortunes of 1874. The locusts came later; the winter was milder; and the rains of the growing season in 1875 were more copious. Hence, the fruit interest promises sooner to recover its former prestige.

Possibly these facts may have something to do with the other fact that the Missouri, Kansas & Texas Railway have sold large quantities of land, notwithstanding the glut in the market, to those who design to improve it. Shrewd men, who have the capacity to take in the full measure of the situation, have been quietly laying hold of choice lands in this valley, especially in the vicinity of White City, during the past season. Such men as we met on the train, from Illinois a few months since, don't buy to lose, nor move to finally go back to their "wives' relations."

We have just visited Hillsdale Fruit Farm, near Parsons, on the M., K. & T. R. R., owned by C. G. Wickersham, Esq., a

gentleman of more than thirty years experience in fruit culture. Mr. W. is doing a good work for himself at an expenditure of cash which few horticulturists in Kansas are able to make. He is doing a work which will be invaluable to southern Kansas; and measures have been taken, through the experimental committee of the State Horticultural Society, by which his experiments will be made available to the State.

A full account of Hillsdale Farm will occupy too much space, and must be withheld for your next issue.

Yours Respectfully,

E. GALE.

## A Cheap Hygrometer for Kansas.

In a recent number of the Manufacturer and Builder occurs a suggestion as to a very delicate but very simple little apparatus for measuring the amount of moisture in the atmosphere. The compound has often been made use of in our own laboratory, and is so inexpensive and simple in its preparation, and still is said to be so sensitive in its indications—especially in an arid climate, that it merits a little attention from those interested.

The whole outfit need cost but a few cents. First is needed a solution of chloride of cobalt. If this cannot be readily obtained, it may be easily prepared by boiling a little finely powdered zaffre, in an ounce or two of muriatic acid, in a glass vessel. To the bright red solution thus obtained add a very little glycerine and a few grains each of common salt and of gum arabic. Saturate in this solution a strip of unsized paper, light blotting paper is said to be best, and allow it to dry. It will at first of course be bright red, but during the process of drying it will pass through a variety of tints, becoming at last blue when perfectly dry.

This compound, the chloride of cobalt, is quite remarkable for its hygroscopic properties. When the colored strip is exposed to the air it will tend to absorb moisture if any perceptible amount be present in the atmosphere, and the amount absorbed will be accompanied by a corresponding change in its color. If the air be very dry, it will retain its blue color; if not excessively dry, it will become violet; if slightly moist, it will become of a pinkish blue; if decidedly moist, it will turn pink; and, finally, if saturated, indicating rain, it will assume a bright red hue. Dr. Nichols, of Boston, recommends the use, with this colored strip, of a color scale which might be painted on a pasteboard strip in the following manner:

Ex. Dry.	Dry.	Moist.	Ex. Moist.	Sat'd. rain.
Blue.	Violet.	Pink-Blue.	Pink.	Red.

Any great degree of accuracy will of course not be looked for from such an apparatus, but in the superlatively dry atmosphere of Kansas its use may prove of some little interest and amusement.—[W. K. Kedzie.



## THE INDUSTRIALIST.

SATURDAY, JANUARY 1, 1876.

New students are beginning to arrive.  
Clothing at low down prices at Purcell's. 31  
A full line of groceries at Purcell's. Call and see them. 31  
W. C. Stewart and G. A. Gale are away visiting. Selah.

Boots and shoes at low down prices at Purcell's cash store. 31

Go to Purcell's for your coal oil. Only twenty cents per gallon. 31

The absence of Prof. Kedzie prevents us from obtaining the Meteorological Report.

A few students can be accommodated with rooms and boarding at the residence of C. F. Little.

The winter term of the Agricultural College opens Wednesday, January 5th, 1876, and closes Wednesday, May 24th.

A few more boarders can be accommodated at Mr. Ed. Hunting's, whose residence is but a short distance from the College.

The thermometer stood 72° in the shade last Thursday, Dec. 30th. Wonder what our northern and eastern neighbors think of that record for Kansas?

WANTED.—To rent houses near the College telegraph line. Persons having houses near the line to rent for next term of school will call on or address W. C. Stewart, Sup't Telegraph Department.

According to measurement made by competent parties, the corner-stone of the College building is seventy-one feet and a fraction higher than the Kansas Pacific railroad track at the Manhattan depot.

We neglected last week to mention the return of Miss Kate Ward, from Colorado, where she has been for the improvement of her health. We rather guess she does not think much of Colorado as a health-giving climate.

President Anderson and family are spending vacation in Junction City. The President, who has been and is quite unwell, was in Manhattan two or three days this week. He visited us only once, and then just to the extent of one minute.

Considerable work is being done this vacation in the Mechanical Department. Something is being manufactured for nearly every department in the College; besides, several students have been engaged the whole vacation in making various articles for themselves.

The reading room has been removed from the President's office. Those wishing to look over the files of the numerous daily and weekly papers which the INDUSTRIALIST receives, can do so by applying at the Printing Department, where the reading room is now established.

Beginning at eight o'clock Thursday night, it rained steadily all night. This is an invaluable gift to this section of the country. The wheat crop has needed rain for a long time, and, although it has not made a vigorous growth, these rains place it in a very promising condition.

Arrangements have been made by "Wild Cat Grange" for a series of lectures during the winter, to be delivered by Professors at the Agricultural College and well-known agriculturists of the State. Prof. Shelton delivered the opening lecture of the course on the evening of Dec. 30th, to a crowded house.

Mr. L. N. Holmburg, one of the well-to-do farmers of McPherson county, favored us with a visit on Wednesday last. Mr. Holmburg expressed himself well pleased with what he saw of the shops, the farm and the stock. He gives a good account of the Berkshires he obtained last summer from the College farm, they having obtained prizes at the county fairs.

The loneliness, to us, of the present vacation was dispelled last Tuesday afternoon by the arrival at our office of two young ladies, who had called to while away an hour or so in our society. We confess that, after our solitude of a week, we were just prepared to enjoy that kind of a visit. And we did enjoy it. The ladies brought their work with them and during their stay our office appeared more like a sewing circle than an editor's sanctum.

A batch of ores recently received for analysis by the Chemical Department, from the Mining and Manufacturing Company, of Baxter Springs, contains among others several specimens of a very rare and interesting mineral. It is known to mineralogists as cerusite. It is a native form of carbonate of lead, commonly known to commerce as "white lead." Everywhere a rare and choice mineral, this is the first instance of its occurrence in Kansas.

By the way, they would appear to have "struck it rich" down in Baxter; but it will be quite useless for them to send us up specimens of Colorado quartz rock, with the gold nuggets cropping out thereof, with the expectation that they will be swallowed as Baxter "finds." Quartz rock of a gold bearing character is not alarmingly prevalent along our eastern border, and such attempts to swell their undoubted mineral wealth are a trifle too "diaphanous" to endure. K.

Samples of the fine table salt now being manufactured in Solomon City, have been recently submitted to quantitative analysis in our chemical laboratory with most interesting results. These analyses show beyond the shadow of a doubt that the brines of Kansas will furnish a salt in every respect equal to the best eastern article now thrown upon western markets. Comparisons with analyses of Saginaw salt, recently made by the State Salt Inspector of Michigan, Dr. S. S. Garrigues, show that those impurities which especially injure the value of a salt, viz: the chlorides of calcium and magnesium, are really present in less quantity in the Solomon City salt than in the Saginaw article. Care and watchfulness in the process of manufacture is all that is needed to enable our Kansas salt manufacturers to drive their eastern competitors from western markets. But concerning the salt interests of Kansas we shall have more to say presently. K.

We suppose the students must be enjoying vacation better than they anticipated, for many of them were free with promises to inform one another, through our Students' Column, what they are doing, what others in their locality are doing, etc. We knew, from experience, that they would fulfill the promises only when time began to drag on their hands, for then their thoughts would turn to College Hill. As we have not heard from any of them, we naturally conclude that they find so much that is pleasant and absorbing that they scarcely think of us. If they knew the utter loneliness of our office, they would drop us a line just to relieve the monotony, the death-like stillness, which is seldom broken save by the ring of the carpenter's hammer, or the scream of his saw, as he plies his trade in the room below us. Occasionally, however, the beaming countenance of Dow, or Failyer, or Gale, appears at our door and we know that for the next few minutes all will seem more cheerful, but they soon depart and again we are left in solitude. And so we cannot say that we are sorry the winter term opens next Wednesday.

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OF THE

Kansas State Agricultural College.

Organized, Oct. 12th, 1868; chartered, Jan. 1871.  
Motto: "Labor Omnia Vincit."

Meets Saturday evening each week.

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### Literary Society

OF THE

Kas. State Agricultural College.

Organized, Oct. 17, 1868. Chartered, Dec. 26, 1870.

The society holds its sessions in the college building every Friday afternoon at two o'clock.

MISS NELLIE SAWYER, Pres.  
G. H. FAILYER, Sec'y.

E. B. Purcell, Banker. Jno. W. Webb, Cashier.  
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[Concluded from first page.]

supplanted by husbandry. He advised the planting of peach pits, allowing trees to branch out at will without pruning. He thought if experimental stations could be established, and causes of failure be made known to a certainty, we could then take the matter of planting trees on the plains in hand with satisfaction.

Report of standing committee on entomology read by the Secretary, written by W. W. Tipton, of Burlington, wherein he said so much in favor of insects that we became almost resigned to be annoyed by them for all time to come. He thought a text-book treating on insects, their habits, etc., should be introduced into our schools.

Evening session.—Mr. VanDeman, chairman of committee on act for protection of birds, reported in behalf of his committee. After some discussion the report was re-committed for revision, with instruction to send to the proper committee of the Legislature and action asked upon it without further notice from the Society.

Prof. Shelton's lecture on grasses was evidently interesting to his hearers, judging from the hearty vote of thanks which was tendered him at its close by the Society.

Col. Lines, chairman of committee on fruit, made an interesting report. The sentiment of faith, pluck and cheerfulness embodied in the last part of the report was, to say the least, gratifying, and called out words of cheer from all parts of the house, until, with a slight draw upon the imagination, we could have believed ourselves in a Methodist class meeting; this one was determined to go on; that one felt encouraged to try it another year; a third thought horticulturists needed just the kind of setting back they had had; said it would do them good; they were too proud of their Philadelphia medal.

The enjoyable music furnished by the quartette, did much towards bringing the session to a pleasant close.

## KANSAS STATE Agricultural College,

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FOR THE  
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Simple Tillage,  
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Besides regular class instruction in printing, the weekly publication of the Industrialist by the Department furnishes advanced students the requisite drill in newspaper work.

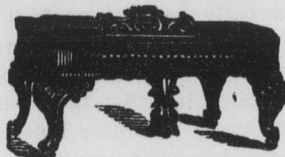
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The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

Vol. 1.

MANHATTAN, KANSAS, SATURDAY, JANUARY 8, 1876.

No. 38.

## THE INDUSTRIALIST.

Published Every Saturday,

BY THE

PRINTING DEPARTMENT

OF THE

KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

### Terms of Subscription.

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THE State Superintendent reports 110,000 scholars in attendance on the schools last year in South Carolina.

THE Supreme Court of Wisconsin recently decided that the whipping of a child by a school teacher is an assault and battery, and that an offending teacher may be fined, as well as held answerable for violating the dignity of the law.

"THERE is not one man in ten thousand who can afford to do without seven or eight hours sleep. All the stuff written about great men who sleep only three or four hours a night is apocryphal and a lie. They have been put upon such allowance occasionally and prospered; but no man ever yet kept healthy in body and mind for a number of years with less than seven hours sleep."

THE likeness of a woman who has been dead more than twenty years, was lately discovered on a pane of glass in a chamber window in a house at Charlotte, Virginia. The likeness is distinct and accurate, and resembles a photograph negative. It is said that the woman was stunned by a flash of lightning, many years ago, while standing at that window, and the theory is that the outlines of her features were photographed on the window pane at that time.

To read the English language well; to write with dispatch a neat, legible hand; and be master of the first four rules in the arithmetic, so as to dispose of at once, with accuracy, every question of figures which comes up in practice; I call this a good education. And if you add the ability to write pure, grammatical English, I regard it as an excellent education. These are the tools; you can do much with them. These are the foundation; and unless you begin with these, all your flashy attainments, a little geology, and all other ologies and oosophies, are ostentatious rubbish.—[Edward Everett.]

THE exact geographical centre of the State of Kansas is a point in the northwest corner of Rice county, only a few miles from Atlanta, the county seat of that county. The center of population, according to the census returns of 1875, is a point about twelve miles northeast of Emporia, Lyon county. The center of population is, therefore, about one hundred and twelve miles east and about six miles north of the geographical center of the State. Kansas is four hundred miles in length, east and west, and the center of population is now about eighty miles from the eastern border. That information concerning the center of population is derived from Hon. Alfred Gray, the careful and capable Secretary of the State Board of Agriculture.

### He is Only a Printer.

The following tribute to the noble art preservative, we find in a cotemporary, and we commend its strong contrast to the intelligent reader:

"He is only a printer." Such was the sneering remark of a leader of aristocracy. Who was the Earl of Stanhope? He was only a printer. What is Prince Frederick William, married to the Princess Royal of England? He, too, was only a printer. Who was William Caxton, one of the fathers of literature. He was only a printer. Who were G. P. Morris, N. P. Willis, Horace Greeley, Bayard Taylor, Charles Dickens, Thiers, Geo. D. Prentiss, and Senators Dix, Cameron, Hamlin and Niles? They, too, were printers. What was Benjamin Franklin? He was also a printer. Every one cannot be a printer; brains are necessary.

### Progress of the Keely Motor Project.

[From the Philadelphia Times, Dec. 9.]

There was a movement in the Keely motor business yesterday. It was the day of the annual election of directors by stockholders, of whom there are one hundred and fifteen on the rolls, having twenty thousand shares of a "face" value of fifty dollars a share, distributed among them, and held half and half in New York and Philadelphia. After electing eleven directors and hearing the reports of the present condition of the machine, the party took carriages and drove out to Keely's workshop, where they inspected the new generator which was received yesterday afternoon from L. P. Morris & Co. It weighs two tons, is made of phosphor bronze and Austrian gun-metal, and will, according to Keely, be able to generate 38,000 pounds pressure to the square inch. The new receiver, a perfect sphere, thirty inches interior and forty-two inches exterior diameter, weighing 7,000 pounds, cast in steel at the Chester Works, and taking four days to cool and thirteen days to be decarbonized, will also be received from Roach's works, at Chester, in about a week. Then, in about three months, the Keely motor will be ready to split ships in two, and drive engines to New York and back on a pint of water.

### The Lessons of Life.

Of all the lessons humanity has to learn, the hardest is to learn to wait. Not to wait with folded hands that claim life's prizes without any previous effort, but having struggled and crowded the slow years with trial, see no result, as effort seems to warrant; nay, perhaps disaster instead. To stand firm at such a crisis of existence; to preserve one's self-poise and self-respect; not to lose hold or relax effort. This is greatness, whether achieved by man or woman; whether the eye of the world notes it, or it is recorded in the book which the light of eternity shall alone make clear to the vision. Those who stand on the high places of the earth understand not what necessity, what suffering means. They know not what it is to a noble mind to be obliged, like the worm, to crawl upon the earth for nourishment, because it has not the strength to endure famine. Life moves around them with so much grace, splendor and beauty; they drink life's sweetest wine, and dance in a charming intoxication. They find nothing within them to understand the real sufferings of the poor; they love only themselves, and look at mankind only in their own narrow circle.

### Hearty Breakfasts.

In a large majority of cases, says the Journal of Health, it will be found that the best and healthiest meal of the day should be eaten in the morning. If the closing repast of the day has not been eaten too late, or has been excessive in quantity or indigestible in quality, the stomach will be rested and active in the morning after the individual has enjoyed a cool bath. The stomach will then respond quickly with the necessary gastric juice for the solution of food, and, if a fair amount of exercise is taken during the day, a large mass of food will be assimilated and converted into blood and tissue. With a good substantial breakfast, no great amount of food will be required during the remainder of the day. One further meal will be ample, and that might better be taken at from two to three o'clock in the afternoon than at any period, if business engagements only permitted it.

The breakfast may be made from any kind of wholesome food, and the fewer the kinds the better. The dinner should be light and readily digested, if sound sleep is desired and strong appetite and perfect powers of digestion next day. If hunger comes, a bowl of sweet milk, or other unbolted grain, will allay it, and will digest quickly. "One square meal" in every twenty-four hours is all that can be taken care of by many weak stomachs; more than this is an excess, and induces headache, nausea and distress. If dinners were abandoned, especially late and heavy dinners, myriads of dyspeptics would be cured. But under the exigencies of city life a late dinner cannot be well avoided. This need not be the tremendous meal it is customary to make it, if the breakfast be substantial and nutritious, and not a thing of slops and biscuits, as it too often is.



# THE INDUSTRIALIST.

SATURDAY, JANUARY 8, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## Hillsdale Fruit Farm, Parsons, Kan.

This farm, owned by C. G. Wickersham, is on the line of the Missouri, Kansas & Texas Railway, about two miles northwest of Parsons. The farm occupies a gentle swell of ground, and is well located to escape the frosts of the bottom lands. Mr. W., with an unbounded faith in the fruit capacity of the Neosho Valley, has brought his more than thirty years' experience to bear in the development of a fruit farm, which we trust will be a source of profit to himself and of just pride to the citizens of southern Kansas. Everything about the place shows an experienced hand. Mr. W. evidently does not believe in luck; he believes that what is to be done should be well done. He feels a just pride in planting, pruning and working about his trees; they are his pets, for which he is ready to work early and late. Few have the means to do as Mr. W. has done here, and fewer still can bring as much experience to the work. Several thousand dollars have been expended, and the offers which he has lately received for the place justify the wisdom of the investment.

While these grounds are in some sense experimental, it should be noted that a reference to immediate profits has not been overlooked. The main part of the plantation has been made with known and approved varieties, but no expense has been spared in the selection of such new varieties for trial as give promise of value. This course, while in the outset expensive, will, if results are carefully noted, be of great value to the State.

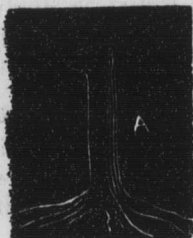
Indeed it will be hardly possible to estimate the value of the work which a few intelligent planters are doing for the State. Their work is often regarded as of little moment by the ignorant or thoughtless, but no one who stops to examine the difficult questions involved in fruit culture can fail to see that the efforts of these men concern the highest interests of the people. The only question is how to make the experience of the few available to the masses. It is the purpose of the State Horticultural Society, through its experimental commission, to gather up the experience of the few for the good of the many. By such a course the experience of the past will dictate the mode and variety of planting for the future, and in this way hundreds of thousands be saved annually to the State.

Our introduction was first to a series of mounds, with a stick standing at the head and foot, pointing north and south, and

strongly suggestive to one just from the Territory of Indian graves. This was the fig orchard, fifty trees in all, laid carefully down and covered for the winter. We turn to the left and before us stands a block of two hundred plum trees of eleven different varieties. Mr. W. means to have enough for the little Turk and himself also.

Next we come to twelve hundred peach trees mainly of ten varieties, while eighteen other varieties are being tested. These peach trees present a peculiar and interesting appearance, the result of the system of pruning which Mr. Wickersham has adopted and which he believes will abundantly pay in the quality of his fruit. Without either adopting or rejecting his system of pruning we shall watch with great interest the results, and do now take special pleasure in briefly reporting his system to our readers:

He would prefer a medium sized peach tree one year from bud. This he would cut down to where he desires the head to form, say from one foot to eighteen inches high. Then, with a sharp knife, he removes all the buds from the ground up to nearly the top of the stub, so that the tree will appear as at A, before beginning to grow.



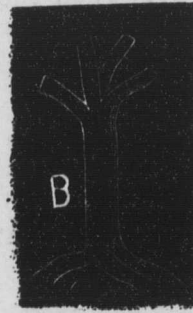
The next fall the tree is shaped as at C, with six or eight branches.

The second spring it is pruned back as B, with three or four branches. At the end of the second year the trees assume with remarkable regularity the form given at D.

Much care has been taken in keeping the north and south sides of the trees evenly balanced by careful pruning to proper buds and by frequently shortening in on the north.

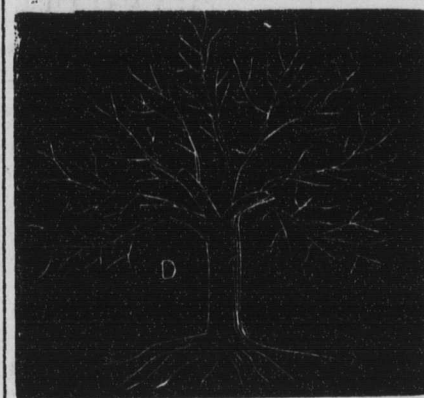
The apple orchard consists of nine hundred trees and thirty varieties. We found also six hundred pear trees, of which two hundred and forty are Bartlett's and one hundred and twenty Clapp's Favorite. Then we noted over two hundred cherry trees. Among other varieties we saw a fine lot of Montmorency Ordinary, which is described as resembling the Early Richmond, but much larger, much finer fruit, and ten days later.

Our attention was called to a fine lot of American chestnut which appear perfectly healthy and promise well. The English walnut looks healthy so far; this will need careful testing. The blackberries have received special attention;



they have been pruned to about two and one-half feet high, and the abundant crop of the past season justifies the extra care given them. Probably no small fruit crop will reward attention more promptly than that of the blackberry.

Mr. Wickersham's mode of mulching the



strawberry is somewhat peculiar and he assures us has with him been an entire success. In the first

place he always keeps his strawberries in hills. He delays mulching until danger of warm weather is passed. He then first places a little handful of clean straw or chaff over each plant; on top of this a handful of decayed litter or manure from an old strawstack; and, finally, over this a small shovelful of soil, so as to keep the latter in place. With this protection he never fears any winter killing.

Time and space will not permit a reference to the many varieties of fruits that have already been gathered in these grounds. We hope at some future time to review them more carefully. It will gratify the friends of horticulture in the State to know that Mr. Wickersham enters cordially into the plans of the experimental commission, and is ready to do everything in his power to promote that interest throughout the State.—[E. Gale.]

THROUGH the influence of the Kansas delegation and, especially, as the result of the persistent efforts of Senator Harvey, the United States Signal Service has established a station at the Agricultural College. Mr. Harry F. MacFarland, the officer in charge, has taken full possession of our office, and began his observations January first. This station is, we believe, the most westerly one on the Plains, that on Pike's Peak being beyond the Plains. Our readers will in due time be presented with an account of the way "Old Probabilities" keeps the run of the weather.

## Gardening for Profit!

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GARDENING.

Kansas Forest Culture a specialty.

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## THE INDUSTRIALIST.

SATURDAY, JANUARY 8, 1876.

Clothing at low down prices at Purcell's. 31

A full line of groceries at Purcell's. Call and see them. 31

Boots and shoes at low down prices at Purcell's cash store. 31

Go to Purcell's for your coal oil. Only twenty cents per gallon. 31

A few more boarders can be accommodated at Mr. Ed. Hunting's, whose residence is but a short distance from the College.

A few students can be accommodated with rooms and boarding at the residence of C. F. Little.

Messrs. Popenoe and Clark, of Topeka, made the College a visit this week. Sorry we were so busy.

A few students can rent rooms in the old College building at low rates. Apply to Major N. A. Adams, Secretary.

The winter term of the Agricultural College opened Wednesday, January 5th, 1876, and will close Wednesday, May 24th.

Captain Jno. K. Wright, of Junction City, made a careful inspection of the several departments of the College, preparatory to taking his seat as the Representative from Davis county. We wish every member of the Legislature would come up and examine things for himself.

At the last meeting of the Board of Regents of the Kansas State Agricultural College, held in December, a resolution was passed authorizing the Treasurer to publish, in the county papers, a list of all School Districts whose bonds or coupons are delinquent in payment to the College fund.

In view of the unprecedented attendance of students, we can't help contrasting the present ease of obtaining boarding compared with the difficulty of previous years. When we were up on the Hill one hundred students occupied all the places within two miles; now, one thousand students could be accommodated within a mile and a half of the recitation rooms.

At the meeting of the Diogenesian Society, on Friday afternoon, the following officers were elected: President, Chas. McConnell; Vice-President, Miss Hope Rogers; Recording Secretary, George Platt; Corresponding Secretary, Miss Ella Winne; Treasurer, Miss Julia Rogers; Marshal, M. F. Leasure; Directors, Messrs. Leasure and Rogers, and Miss Jennie Mails.

For the convenience of students we give the Time-Table, as arranged yesterday:

FIRST HOUR, 8:40 to 9:30.—Geometry, Industrial Drawing, Chemical Physics, Practical Agriculture, U. S. History.

SECOND HOUR, 9:30 to 10:20.—English Structure, Botany, Analytical Chemistry, Moral Science, Drill in English, German.

THIRD HOUR, 10:20 to 11:20.—Logic, Industrial Drawing, Elementary Physics, Gardening, Drill in Arithmetic.

FOURTH HOUR, 11:10 to 12:00.—Mechanics, Entomology, Meteorology, Arithmetic and Book-Keeping, German.

FIFTH HOUR, 12:00 to 12:50.—English Structure, Arithmetic and Book-Keeping, French.

The recitations in the several Industrial Departments are at the same hours, and running into the afternoon when necessary.

The Winter Term opened Wednesday, the 5th inst., with a larger number of students than ever before at the same time of the year. Twenty-six new students were examined the first two days. From January to June of last year the whole number enrolled was 118. Last night the number enrolled was 138, not counting several who arrived Friday but had not reported. Many of the old students will return to-day and next week. This

attendance is so unusually large that we have had the curiosity to refer to that of the Fall Term last year, which was the largest the in history of the Institution, and we find that the number enrolled at the end of the third week was exactly the number enrolled on the third day of this term—138. Heretofore, the attendance during the Fall Term has been one-half greater than that of the Winter Term. If this ratio holds good in the year before us, our report to the Governor for 1876 will show an attendance of 300 and probably more.

### Meeting of the Alpha Beta Society.

An exceedingly interesting session of the Alpha Betas was held yesterday afternoon. A larger number of the members were present than at any previous first meeting of a term since the society was organized. Several students, both old and new, attended as visitors.

During the extemporaneous exercise a discussion, which had been arranged beforehand, was had as to the justice of the banishment of Napoleon to St. Helena. This question was debated only a few weeks ago, but the debaters were not satisfied with the battle and so fought it again. It was a timely occurrence, no arrangements for the regular debate having been made; and we are sure it was interesting, for the participants improved each and every opportunity for making a point, and seemingly desired their hearers to realize that the future existence of the world really depended upon the degree of earnestness which they manifested in the discussion.

The following officers were elected for the ensuing term: President, A. A. Stewart; Vice-President, Miss Esther Evans; Secretary, Miss Melva Sikes; Treasurer, Wm. Sikes; Marshal, C. M. Grover.

The next exercise was the reading of the third number of the Gleaner, so ably edited by G. H. Failyer and Miss Ella Gale. It contained a number of sound articles, and abounded in numerous short, spicy locals. Every one was eager to hear it, and all listened to its reading with an untiring interest that was not only commendable to the listeners but a guarantee to the editors that their labors were greatly appreciated by all present. The Gleaner is a decided favorite among the members, and has already become a feature of the society which could not well be dispensed with. G. A. Gale and Miss Miriam Failyer were appointed to prepare the fourth number, to be read two weeks from yesterday.

After the transaction of the business which came before the society, it adjourned. The members all seemed determined to work with renewed energy for the promotion of the best interests of the society, and certainly yesterday they made a good beginning for few of its meetings have equalled its last one. \*\*

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Organized, Oct. 12th, 1868; chartered, Jan. 1871.

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L. B. ROGERS, President.  
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### ALPHA BETA Literary Society OF THE Kas. State Agricultural College.

Organized, Oct. 17, 1868. Chartered, Dec. 26, 1870.

The society holds its sessions in the college building every Friday afternoon at two o'clock.

MISS NELLIE SAWYER, Pres.  
G. H. FAILYER, Sec'y.

E. B. Purcell, Banker. Jno. W. Webb, Cashier.  
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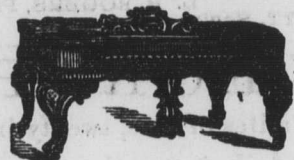
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Topeka, Nov. 10th, 1875. 30-tf

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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, JANUARY 15, 1876.

No. 39.

## THE INDUSTRIALIST.

Published Every Saturday,  
BY THE  
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OF THE  
KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

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### Our Answer.

BY J. A. ANDERSON.

Our answer has thus been given to the question, whether the course devised for the education of man for professional work, is best for the education of woman for woman's work as a wife and mother. We claim that this work is essentially different from man's; that it requires different knowledge and skill; that her mental organism is different from his, either radically, or in the mode of its action, or both; that it should be differently fed, nourished and exercised; that the practice of curbing faculties naturally dominant, by seeking to force others relatively dormant, is against the practice of nature in physical growth, and only submitted to by plants and pupils powerless to help themselves, and that its effects are sloughed off as speedily as possible when the treatment ceases; that the faculties should be developed in the proportion of their dominance, and as inseparable members of a completed organism, since, if one of the members suffer the whole organism suffers with it; that the controlling object should be to develop the best power and skill of womanliness along the line of womanly nature, and that this line is the shortest as well as the easiest; that knowledge should be presented in the forms most grateful to the taste, and not pill-powdered with dust, or gritty with abstractions, or nauseous with cloying uselessness; that skill in a given art is more essential than a philosophical comprehension of its science; that no system of female education, guided by ordinary common sense, and really aiming to prepare the girl for woman's daily work, can be less illogical than

the one now generally followed; that no mistakes made in any reasonable effort to determine the line of woman's nature, and to adapt educational methods and agencies thereto, can, by any possibility, be more wasteful of the pupil's energies, or more hurtful to her nature, than are those crystallized in, and daily perpetrated by, the prevailing system; that those educators and physicians who have paid the closest attention to its tendency and effects, are best satisfied of its unfitness for the coming generation; that it is continued in use, not because of its merits, but because the market, by the voice of usage and fashion, demand it; that it is a sham, a farce, and a fraud; that when the American press and the American public, guided by their own experience, and by the testimony of the best family physicians, who, because of a broader field of observation, are more competent witnesses than the professional educator, fully realize the nature, organic tendencies, and actual results of the prevailing system, it will be starved out of the market; that the defensive cry of the conductors of female colleges "Where is a better one?" will be properly answered by the response of parents, "It is your business, for which you are liberally paid, to find a better one!" and, finally, that a fair application of the above principles will furnish a better one.

### Money Wanted.

The most natural and effective course of education and mental discipline possible for our boys and girls, is to set them to earnest and constant thought about things they daily do, see and handle, in connection with their every-day interests and necessities of life.

For the mere bookworm and impractical theorist, it may do for him to plunge into the catacombs of buried nations and languages, to soar away to Greece or Rome, or Nova Zembla, Kamschatka and the fixed stars, before he knows how to plant his own beans or harness his own horse, or can tell whether the functions of his own body are performed by a heart, stomach and lungs, or by a gizzard and gills. But for the man of work and useful business to thus bolt away from himself and all his life pursuits and daily necessities, contradicts the plainest principles of nature and common sense. The best way to educate a man or woman is to set him or her to intense thought and work on the respective pursuits and labors that await them in after life.

Some, of course, think this manner of education too sensuous and gross to be at the basis of a pure and elevated mental culture. But it should not be forgotten that the themes and subjects connected with the industries and practical necessities of mankind are vast and various. This field embrac-

es all that God has made and human art accomplished; and if the created Universe of God and the highest art of man are too gross for our refined uses, it is a pity the "morning stars and the sons of God" did not find it out as soon as the blunder was made.

"But, in my opinion," says Professor Turner, "these topics are of quite as much importance to the well-being of man and the healthful development of mind, as the concoction of the final nostrum in medicine, or the ultimate figment in theology and law, or conjectures about the galaxy or the Greek accent; unless, indeed, the pedantic professional trifles of one man in a thousand are of more consequence than the daily vital interests of all the rest of mankind." This was the language and teachings of the first great workers in the cause of the practical industrial education of the masses of the people. Their teachings were crowned with success, in theory; but in practice have fallen far short of realization, as yet, in most of the States.

The Kansas Agricultural College is the first to advance boldly to the front in the right direction. Our College at Manhattan now stands boldly conspicuous, and almost alone, on the true industrial ground. Other States and other colleges and universities must be content to follow, or fail to make any progress. The practical question today is, will the people, through their Legislature, sustain the people's College? Of course they will. There is no room for doubt in the matter when the case is properly understood. The President has vindicated his course by two years of faithful, successful labor. The number of students has made more room a necessity. We think the request for funds for a few more shops and stables moderate, and eminently just and reasonable. They should be met promptly and liberally by the Legislature, so that there be no hitch or hindrance in the progress of the College.—[Junction City Tribune.]

The various kinds of oak, and some other kinds of valuable timber, will shrink more or less every time the surface is dressed off even a small fraction of an inch. Wheelwrights, accustomed to work in oak, are well aware of this fact, and a correct appreciation of it often enables them to turn out work of a superior character even of ordinary materials by first blocking out the pieces roughly, then allowing the timber to season, afterward working the various parts by degrees, as the seasoning process becomes more and more complete.

White oak spoke timber, for example, may be allowed to remain in a rough state for half a score of years, under shelter, without becoming seasoned so thoroughly that the timber will not shrink after the spokes have been dressed out.

BRET HARTE commenced life as a child, and was a clerk, a schoolmaster, a gold miner, a printer, an editor and a poet before he became of age.



## THE INDUSTRIALIST.

SATURDAY, JANUARY 15, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

THE INDUSTRIALIST is published by the printing department of the Agricultural College; and its bills—bad luck to them!—are footed by private parties. Its typography is an evidence whether printing can be taught in a college or not, as the type-setting is done by the printing classes. During the session of the legislature it asks the privilege of making regular visits to the desks of members, without cost to them, and as a weekly report of what is going on at that one of the State institutions which is conducted for the education of the industrial classes. Even if it is little, it thinks just as much of itself as the larger papers do; and, though it has cheek enough to ask a great deal more, it only asks permission to go to members; they can read it or not as best pleases them.

### Square Out.

We have no time in the rush of an opening term to write editorials, and instead thereof propose to say to the owners of this Institution—the people of Kansas—precisely what we would say to our most intimate personal friends concerning its present condition:

In September 1873 the policy of giving an education for the direct benefit of the industrial classes, as distinct from the education framed for the direct benefit of the professional classes, was adopted. The execution of this new policy necessitated radical changes in the course of instruction, which were rapidly made. Against these changes it was urged, in many quarters and by many thoughtful persons, that the policy was an experiment; that the departure from the paths of professional education was too great; that manual skill in agricultural operations, and, especially, in the trades, could not be taught in a college; and similar objections. We admitted that the policy was an experiment, and have never claimed anything else. We knew that the changes had to be radical, because, as we looked at the problem, it was an absurdity to expect that an education which has a cash value in the practice of medicine could have an equal cash value in the practice of agriculture. Prescribing pills and raising potatoes require different kinds of knowledge and skill. There are hundreds of colleges and universities in the United States that will prepare a student for the berth of deputy sawbones in a medical school; and we

proposed that this College should teach that knowledge and skill which the farmer or mechanic uses. The teapot-tempests excited by this determination never bothered us a particle. We believed we were on the right track to a thorough and practical industrial education; and that was the point to which Congress ordered this Institution to go.

It is now two and one-half years since this experiment was put to the test. We have watched it closely and ceaselessly. It is different from that tried by any other institution in the United States in two particulars: first, the sciences are more absolutely shaped with respect to the value of their truths to the industrial workers; second the manual skill, essential in the several industrial vocations, is more directly and practically taught. From Maine to California the Kansas Agricultural College policy has excited an interest among educators, and especially farmers, greater than that created by any other educational system during a similar period.

We now wish to say that, in our belief, this policy is no longer an experiment; it is a fact fully proven to us, and one which, with essential facilities, we will undertake to prove to the satisfaction of any number of candid jurymen. We have never said this before, because, though confident as to the result, we had not fairly tested the new methods; but now, on the strength of the facts which have been developed in the last two months, even under all the disadvantages of half-equipped departments and scarcity of room, we are ready to say to the State of Kansas, or to any other State, that with just such facilities as are found on any good farm and in any shop run for profit, the matter of giving an education that is worth more money to the farmer or mechanic, than the ordinary education is worth to the lawyer or doctor, is a thing as easily done as is the latter. We do not say that this Institution is yet able to demonstrate every point of this general proposition; because, first, it has not had the necessary time; and, second, it has not the needed tools—without which a demonstration is impossible. Our meaning may be better stated as follows: We would be personally willing to enter into a contract, with responsible sureties by both parties, to furnish any State, providing the necessary facilities, with an Agricultural and Mechanical College which should give an industrial education that would be accepted by any number of judges appointed by the practical farmers and mechanics of that State. In other words, agricultural colleges can be made to do their work just as effectively as West Point is made to furnish a military education.

But if Kansas thinks that such a result can be brought about, in any reasonable time,

by an institution, without suitable buildings, tools and apparatus, on \$19,000 a year, it is as badly mistaken as a boy who thinks he can make money by boring two-inch auger holes with a gimlet. One dollar won't pay for three dollars' worth of grain.

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GEO. W. MARTIN, Publisher.  
Topeka, Nov. 10th, 1875. 30-tf

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# THE INDUSTRIALIST.

SATURDAY, JANUARY 15, 1876.

## Meteorology.

For the week ending Jan. 12, 1876. Condensed by Prof. Kedzie, for the Industrialist, from the records of the Chemical Department:

DAY OF WEEK.	Thermometer.			Bar.	Rainfall in in's.
	Max	Min.	Me'n	M'n H't.	
Thursday.....	52°	29°	42°	30.27	
Friday.....	60	37	51	29.86	
Saturday.....	59	49	53	29.60	
Sunday.....	49	13	20	30.27	
Monday.....	36	12	24	30.54	
Tuesday.....	45	17	34	30.32	
Wednesday.....	44	19	32	30.46	

Number of students enrolled this Term, 171.

Clothing at low down prices at Purcell's. 38

A full line of groceries at Purcell's. Call and see them. 38

Boots and shoes at low down prices at Purcell's cash store. 38

Go to Purcell's for your coal oil. Only twenty cents per gallon. 38

A few students can be accommodated with rooms and boarding at the residence of C. F. Little.

The illustrations of the editorial article in our last number were engraved by Miss Ella Gale.

A few students can rent rooms in the old College building at low rates. Apply to Major N. A. Adams, Secretary.

On the fourth page will be found a list of the "arrivals" this term. We have not had time to tabulate the counties.

Everybody is so busy that no one has time to scoop up items, though they are as plenty as corn-cobs near a sheller.

A few more boarders can be accommodated at Mr. Ed. Hunting's, whose residence is but a short distance from the College.

Since the outside was printed the following students have been enrolled: Fredrick A. Bletcher, Reedsville, Marshall county; Belle V. Veatch and Agnes M. Woodman, Manhattan; and Anna Wertberger, Alma, Wabaunsee county.

Mr. Wm. Ulrich, one of our students, has tut and dressed a cube of Manhattan stone for exhibition at the Centennial. It was done at the request of Major-General Davidson, by whom the stone has been forwarded to the War Department.

It would be a great accommodation, as well as an act of simple justice and decency, if persons who go through the farm would shut the gates after them. We are tired driving cattle out, and, besides, they have destroyed one lot of experimental wheat. If our grounds are to furnish pasturage for all the neighboring cattle, there is one individual who will go in for a herd law dead sure and red hot.

The attendance during the last term, from August to December 1875, was greater than at any previous period in the history of the Agricultural College, being an aggregate of one hundred and seventy-six. Heretofore, the attendance during the winter term has been two-thirds that of the fall term; and, on this scale, the number enrolled from January to June 1876 should have been one hundred and eighteen. Instead of that, at the end of the first week there are one hundred and sixty-nine in the recitation rooms, or fifty more than we could have anticipated even on the ratio of the best fall term the Institution ever had.

The Websters assembled at their hall last Saturday night. After prayer and roll call, all orders of business were passed to election of officers. The following officers were then elected: President, A. R. Oursler; Vice-President, T. C. Hulett; Recording Secretary, N. W. Harmon; Corresponding Secretary, John King; Treasurer, L. B. Rogers; Critic, J. F. Arnold;

Librarian, C. M. Huston; Marshal, C. E. Penry. Next in order was the discussion of the question, Resolved, That the four great lakes are of more benefit to the United States than the Mississippi river." Decided in favor of negative. The names of Messrs. Ellsworth, Merritt, Humphrey and Buckwith were presented as suitable persons to become members of the Webster society. After transaction of business under various heads, the society adjourned.

SECRETARY.

For the convenience of students we give the Time-Table:

FIRST HOUR, 8:40 to 9:30.—Geometry, Industrial Drawing, Chemical Physics, Practical Agriculture, U. S. History.

SECOND HOUR, 9:30 to 10:20.—English Structure, Analytical Chemistry, Moral Science, Drill in English, German.

THIRD HOUR, 10:20 to 11:20.—Logic, Industrial Drawing, Elementary Physics, Gardening, Drill in Arithmetic.

FOURTH HOUR, 11:10 to 12:00.—Mechanics, Entomology, Meteorology, Arithmetic and Book-Keeping, German.

FIFTH HOUR, 12:00 to 12:50.—English Structure, Arithmetic and Book-Keeping, French, Botany.

The recitations in the several Industrial Departments are at the same hours, and running into the afternoon when necessary.

Now, here's bother again! When we got into the Barn, and, by so doing, obtained twice the room we had before, it did seem as if there would at least be floor space enough for the accommodation of classes. But there isn't; not that the rooms have shrunk, but that the classes have become aldermanic. Like the boy who grew faster than his unmentionables, the number of students is too great for the capacity of the present buildings. Every day every Professor earnestly remarks that he needs more room—and he does; while the Superintendents of the several shops just rise up and gesticulate on the same subject and to the same effect—and all of them are right about it! We must have more buildings, and any member of the Legislature who will spend a forenoon here will see the necessity clearly and vividly. We don't want buildings for show, but room for recitations and shops for work. This thing of trying to run an industrial college with the present facilities is like the attempt to keep house in a trunk, or to farm on a rod of ground.

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L. B. ROGERS, President.

F. O. HOYT, Sec'y.

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OF THE

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G. H. FALLYER, Sec'y.

E. B. Purcell, Banker. Jno. W. Webb, Cashier. Geo. S. Green, Attorney.

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# THE INDUSTRIALIST.

SATURDAY, JANUARY 15, 1876.

Students Enrolled Since Jan. 5, 1876.

NAME.	COUNTY.
Anderson, Bernhard	McPherson.
Arnold, Joseph F.	Indiana.
Bayles, John	Riley.
Beckwith, Weldon E.	Wabaunsee.
Blain, Arthur T.	Riley.
Boies, Frank	Jefferson.
Brady, Louis R.	Riley.
Branson, Martin H.	Greenwood.
Branson, Samuel F.	Greenwood.
Brown, Mark L.	Riley.
Browning, Alice M.	Riley.
Browning, Emma E.	Riley.
Browning, Lois	Riley.
Buel, George K.	Wabaunsee.
Buel, Warren C.	Wabaunsee.
Burroughs, Frank C.	Riley.
Burroughs, Lettie M.	Riley.
Campbell, Ettie A.	Riley.
Campbell, Florence	Riley.
Child, Ella	Riley.
Craig, Sarah	Paint Co., Mo.
Crowl, Florence	Pottawatomie.
Crowl, Jessie C.	Pottawatomie.
Davidson, Geo. K.	Riley.
Delahay, Charles	Leavenworth.
Dellinger, Jno. F.	Linn.
Dow, Chas. A.	Coffey.
Dutcher, Jay	Riley.
Eells, Allan B.	Riley.
Eells, Hattie M.	Riley.
Elliott, Willard S.	Riley.
Ellsworth, Miles	Atchison.
Emmons, Joseph N.	Pottawatomie.
Engle, Charles E.	Riley.
Engle, Laura E.	Riley.
Ensign, Ellen J.	Wabaunsee.
Ensign, Francis	Wabaunsee.
Evans, Esther E.	Plainfield, Ill.
Failyer, Geo. H.	Cherokee.
Failyer, Mariam	Cherokee.
Failyer, Miriam	Cherokee.
Fay, Chas. W.	Johnson.
Flack, Jno. B.	Dickinson.
Fletcher, Ellen	Riley.
Foster, Walter E.	Osborne.
Fraunberg, Wm. S.	Labette.
Fuller, A. P.	Franklin.
Gale, Ella M.	Riley.
Gale, Geo. A.	Riley.
Garrett, Nina	Wyandotte.
Gibbon, Jno. W.	Coffey.
Gillett, Chas.	Pottawatomie.
Griffing, Jno. S.	Riley.
Griffing, Wm. J.	Riley.
Grover, Chas. M.	Nemaha.
Grover, Ella	Pottawatomie.
Grover, Mary A.	Pottawatomie.
Haines, Harvey F.	Riley.
Harding, Rowanna	Riley.
Harding, Rowena M.	Riley.
Harmon, Webster	Jefferson.
Harper, Josephine C.	Riley.
Haun, Jno. C.	Harvey.
Hibbard, Alice	Riley.

Higinbotham, G. A.	Riley.
Houston, Chas. S.	Riley.
Houston, Grant U.	Riley.
Houston, L. N.	Riley.
Howard, Jasper M.	Riley.
Hoyt, Kate	Riley.
Hurlburt, Alice M.	Lyon.
Hulett, Turner C.	Johnson.
Humphrey, Carrie E.	Davis.
Humphrey, Louis E.	Riley.
Humphrey, Merritt	Davis.
Huston, Chas. M.	Davis.
Ingraham, Florence	Riley.
Kay, Jas. S.	Pottawatomie.
Kershaw, Jarvis	Riley.
Kimball, Carrie	Riley.
King, John	Marshall.
Knapp, Frank	Miami.
Knipe, Wm. A.	Riley.
Knostman, Emma	Riley.
Lane, William J.	Linn.
La Tourrette, Jas. F.	Colorado.
Leasure, Marion F.	Linn.
Lewis, Ira H.	Labette.
Lewis, John	Clay.
Lynch, James H.	Cherokee.
Mails, Chas.	Pottawatomie.
Mails, Jennie E.	Pottawatomie.
Maltby, Jas. C.	Saline.
Marlatt, Willie C.	Riley.
McCallum, Albert M.	Davis.
McCallum, Chas. P.	Davis.
McCallum, Daniel E.	Davis.
McCallum, Hattie E.	Davis.
McKanlass, Wm. W.	Davis.
McConnell, Chas.	Riley.
McNamee, John	Davis.
McNamee, Mary F.	Davis.
McNamee, Michael	Davis.
Meacham, Mary A.	Riley.
Meeker, Julian L.	Franklin.
Merritt, Arthur	Jefferson.
Noyes, Amelia	Wabaunsee.
Oursler, Alphonso R.	Jackson.
Parkerson, Fannie R.	Riley.
Parkerson, Freeman	Riley.
Parish, Effie	Riley.
Parish, Ella	Riley.
Parish, Emma	Riley.
Pechner, Lizzie M.	Riley.
Peckham, W. H.	Riley.
Penry, Chas. E.	Reno.
Perry, Geo. H.	Riley.
Pike, Frank H.	Marion.
Pillsbury, Nellie	Riley.
Platt, Augustus H.	Riley.
Platt, Geo.	Riley.
Powers, Herbert W.	Riley.
Quinby, Frank B.	Clay.
Rambo, Jas. W.	Lyon.
Redenbaugh, Lydia	Osage.
Reed, Nona	Shawnee.
Rhoades, Anna H.	Pottawatomie.
Richmond, Irving	Sedgwick.
Rogers, Hope L.	Dickinson.
Rogers, J. W.	Dickinson.
Rogers, L. B.	Dickinson.
Romick, J. W.	Dickinson.
Roper, Nida	Riley.
Sawyer, Nellie	Franklin.

Shaw, James	Riley.
Sikes, Melva E.	Pottawatomie.
Sikes, William H.	Pottawatomie.
Simpson, Emma	Riley.
Smith, Leslie H.	Shawnee.
Sternberg, Albert	Ellsworth.
Sternberg, Chas. H.	Ellsworth.
Stiles, Albert H.	Pottawatomie.
Stockwell, Sam'l H.	Nemaha.
Stone, Anna	Riley.
Thompson, Chas. H.	Wabaunsee.
Thompson, Ella M.	Riley.
Thorpe, Hattie M.	Riley.
Thorpe, Jennie B.	Riley.
Todd, Irving	Riley.
Travelute, Charles F.	Marshall.
Ulrich, Wm.	Riley.
Wake, Geo. A.	Riley.
Whitehorn, Arthur	Riley.
Whitman, Ida G.	Osage.
Whitman, Minerva	Osage.
Whitney, Genevieve	Riley.
Whitney, George	Douglas.
Whitney, Kittie S.	Riley.
Whitney, Willard	Riley.
Whitted, Chas. S.	Osage.
Williston, Carrie	Riley.
Williston, Frank H.	Riley.
Wilson, Amos E.	Dickinson.
Winne, Ella M.	Riley.
Winne, Jno.	Riley.
Wood, Arlie	Labette.
Wood, Frank W.	Jefferson.

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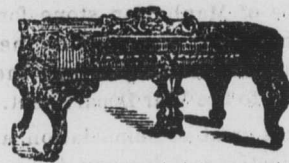
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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, JANUARY 22, 1876.

No. 40.

## THE INDUSTRIALIST.

Published Every Saturday,  
BY THE  
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OF THE  
KANSAS STATE AGRICULTURAL COLLEGE,  
MANHATTAN, KANSAS.

### Terms of Subscription.

SEVENTY-FIVE CENTS per year, postage prepaid. Ten cents per month, postage prepaid. Single copies, delivered at office, two cents each; by mail, three cents. Payment absolutely in advance! Paper stopped at expiration of subscription.

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### The Outlook of the Times.

With constantly growing wealth and intelligence among farmers, it would naturally be expected that they should manifest a constantly increased determination to win and hold the respectful regards of those engaged in other pursuits. Where their business interests are concerned they have too much at stake to remain quiet under neglect or wrong, and as they rise to a fuller knowledge of their own wants, they are better able to impress upon others a sense of the importance of these wants and to determine the means necessary to satisfy them. Evidences of this are seen in this country and England, where especially agriculture has come to be a pursuit of commanding rank, with the prosperity of which the commercial welfare, the luxuries of men of wealth and the necessities of the middle classes and of the poor, are felt to be most intimately associated. The general occupancy of more land, better education, and the more thorough application of business principles in the management of affairs, have given the farmers of these two countries very great advantages as compared with those of Continental Europe, although it should in justice be added that in scientific investigation and in government patronage, Germany and France are doing more than any other nations. For the one—the progress of science for its own sake—not so much care is felt here or in England, as for abundant crops and healthy stock. To the second, government patronage, the race of Anglo-Saxons is for the most part indifferent, preferring so long as its rights are maintained and equal justice meted out for all, to manage its affairs in its own way and win its successes.

Perceiving the paramount importance to farmers as a class, that they should be brought into more intimate relations with one another; that they should derive advantages from the common fund of experience accumulated by all, of which each in his former isolation must remain ignorant; that they should learn their own strength and how to foster it; the thoughtful and earn-

est friends of agriculture of half a century ago busied themselves in the organization of societies in the various States and counties, and as soon as periodicals arose devoted to the practical interests of farmers, labored with untiring energy to place them in the hands of all they could reach by voice or letter. How much has been accomplished through these agencies, cannot be ascertained, but their influence for good can scarcely be overrated. In the progress of time, however, while each has in most respects greatly improved, there has come to be associated with both something of the spirit of mere commercial undertaking; the agricultural society, for instance, in anxiety for financial success, has been too apt to seek the amusement of its members and the public, and to drop out of all effort not immediately connected therewith; and the agricultural paper, in too many cases, has been such in name rather than in reality. With the latter, however, the tendency is now plainly in the direction of increased support to the best and most solid journals—a tendency that seems likely each year to grow stronger and stronger.

As to our agricultural societies, there can be no doubt, we think, that those which have most consistently adhered to the objects for which they were organized, possess the strongest hold on the confidence and regard of the community. Nor do we doubt that they have before them a most important field of labor. They should receive a more earnest and unselfish support—awaken a deeper interest, and secure the more general co-operation of the great body of our farmers. But, here and in England both, there are respects in which as heretofore conducted, they do not seem to have fully met the changing demands of the times. In one country, Chambers of Agriculture—in the other the order of Patrons of Husbandry—have sprung into existence, in very large numbers, during the past few years. The objects of these organizations are in many respects alike, and in some could have been met but imperfectly, if at all, through the societies previously existing. That they will result in good, as must all methods leading to increased intercourse and community of feeling among farmers, cannot be doubted, but the measure of good will depend largely upon the individual members of each division of the general body—the spirit with which they enter upon its work, and the ends to which it is directed.

On the whole we should say that the progress going on in agriculture, is chiefly in its relations as a business rather than as a science. It is as a business that it is conducted, and though no man engaged in it can be indifferent to the vast field of research it spreads before the investigator and student, it is a matter of dollars and cents with all to turn out largest product at the lowest cost, whether they comprehend or not the rationale of every step in the process. It is to experience, therefore, rather than to science, that they look as a guide; and while it is the aim of such a journal as this,

to diffuse the knowledge acquired in the latter direction, its highest value is, perhaps, as a medium for the discussion of the farmer.

It is never safe to speak too confidently of the future, but there are no apparent reasons, to say the least, why the last quarter of the current century, now just begun, should not witness a greater degree of prosperity among the American farmers, than any former period in their history. Producing largely in excess of the wants of our own population, we look for a market abroad for our surplus. And, on the average, this market seems destined to increase in quite as rapid pace, as our means of supplying it. The growth of our own cities and manufacturing towns, but slightly checked during financial uncertainties of the past year or two, is evidently awaiting a new and more vigorous start. The enormous development of the past quarter-century, in the area of our grain and cattle producing territory, meantime has somewhat slackened, and the pressure upon the productive resources of States well populated and cultivated, must be thereby increased, until it reaches a point at which greater inducements than now are afforded to break up remoter lands and subject them to the plow. The financial capital of the country is enormously greater than thirty years ago, aside from any proper allowance for the condition of our currency; and this capital, instead of being locked up in cities or aggregated in possession of the few, is everywhere diffused, in country and town, at the West and at the East, among thousands and thousands of holders. It is not in the nature of money to remain unproductive. The man who buries his talent in a napkin is the exception; and, as a rule, the possession of the single talent authorizes the expectation that it needs only time and nursing to become two, or three, or ten.—[Country Gentleman.]

THE rainfall of 1875 throughout the Northern Hemisphere was greatly in excess of any other year on record. In North America and in Europe the floods were frequent and disastrous, while from Asia tidings have from time to time brought information of a fresh and unprecedented down-pour.

In 1777 the number of churches in the United States was less than nine hundred and fifty; by the census of 1870 the number was seventy-two thousand. Churches have multiplied nearly thirty-seven fold; population, eleven fold. In 1870, religious societies owned \$354,000,000 worth of property.

EVERY load of corn, wheat, hay or other product removed from the farm, takes from the soil and crops, and unless their equivalent is returned to the land in the form of manure, the amount of each succeeding crop will be diminished, until the land will no longer yield a remunerating return for the labor of cultivation.



# THE INDUSTRIALIST.

SATURDAY, JANUARY 22, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## A New Departure.

Many questions relating to the culture of forests, orchards and gardens in Kansas are yet unsettled. We have learned that forest and fruit trees suited to the southern part of Kansas, are not always a success in the northern portion of the State. We know that trees which promise well south do not succeed in the vicinity of Manhattan even. We have to accept the fact that the experience of the eastern counties will not avail for western, or even central, Kansas.

With these facts before us, the Kansas State Horticultural Society has created an experimental commission, the purpose of which is to organize a system of experimental stations at the most feasible points throughout the State. This commission have organized and commenced their work in securing the promise of individual co-operation from different portions of the State. The work already done gives gratifying evidence that we shall be able to very largely utilize the work of individual enterprise, at really little expense to the society, at the same time making it as available to the interests of horticulture as though owned by the State.

It is the design of this commission to thoroughly organize its work, by making these several stations the points of systematic and regular observations and experiment, with Manhattan, for the present, as the common centre. By this course the commission hope to collect a large amount of valuable facts which would not otherwise be made available; and propose to report the same to the State Society at the close of the year. A meeting of the experimental commission will be held on Monday, January 24th, at horticultural room in the College, at 2 o'clock P. M. Any persons interested in this enterprise are invited to be present and participate in the discussions.—[E. Gale.]

## A Little Thing Kindly Done.

Mr. O. H. Dorrance, Superintendent of the Kaw Valley Division of the Kansas Pacific, did a kind and thoughtful thing when he sent to each of the employes of that division a "New-Year's Greeting," neatly printed, stating the condition of the business, and his appreciation of the service rendered by his subordinates in the operation of the road. Superintendents are not paid for doing such things. Sometimes these gentlemen are as unapproachable by a brakeman or fireman as is the inside of a boiler by a fly. They hire men, enforce rules and discharge men, on purely cold-blooded principles; and through the hours of night and day, of storm and danger, the only thing the

men know of such a superintendent is that he will punish every neglect of duty. That is right, for he ought to do so. But neither Mr. Dorrance nor his company have lost an atom by this kindly remembrance of these same employes. The recognition by an employer of faithful work reaches a spot in the heart of the employe that the infliction of penalties never can touch, and we will risk the statement that the K. P. men began work this year all the more readily and vigilantly because of the simple fact that their Superintendent thought enough of each of them to wish them the "compliments of the season."

We know that this is a little thing to say so much about, and, furthermore, that it is the fashion not only to berate railroad corporations, but everybody employed on a railroad. Still it seems to us that brakemen, firemen, baggage-men, engineers, conductors, and all the rest, do about as much hard work, at as great a risk, and for as little pay as most men. They are a part of the "industrial classes," for whom, as for all other toilers, we have a warm side. And the spirit on the part of high officials, even though it but quietly shows itself in such seemingly little ways as the above, is a spirit to be encouraged by everybody. Employers who have such a spirit will have good men about them, and be able to say such things as the following, which we extract from Mr. Dorrance's "good wishes" to his men:

It is very gratifying to be able to state, in compliment to you, that in the year just closed a larger business than ordinary was done on the division without injury to a passenger, with fewer and less serious injuries to employes than usual, and without an accident of moment to a train; and, also, with far less ordinary breakage of cars and engines, killing of stock, loss or damage of freight, or other irregular and undesirable occurrences, than usual.

These good results are largely the fruit of effort rather than of chance, and of themselves sufficiently praise the men who ran the trains, and those who watched over the safety of the track, bridges and machinery, and demonstrate that fidelity and skill may secure immunity from a large class of accidents.

## United States Signal Service.

The United States Signal Service has established a station at the Kansas State Agricultural College for the purpose of making meteorological observations, and the distribution of weather reports for the benefit of agriculture. Through the kindness of Mr. H. F. McFarland, the observer in charge of the station, we were shown the various instruments and the manner of reading them; and, for the benefit of the public, we will give a detailed account of the general working of the office:

Each station throughout the country is supplied with the following instruments: Barometer, thermometer, hygrometer, maximum thermometer, minimum thermom-

eter, anemometer, wind-vane and rain-gauge. The weight of the atmosphere is measured by the barometer. For the purpose of comparison, all barometric observations are reduced to a standard temperature; the temperature generally agreed upon is that of melting ice. A correction is also made for elevation and instrumental error.

The changes of temperature of the air are measured by the thermometer. The hygrometer which, on account of its convenience, is now most generally used is the wet-bulb thermometer. The evaporation of the water produces cold, and this thermometer habitually stands lower than a dry thermometer similarly exposed. This depression strictly measures only the evaporating power of the air; yet, as the latter depends upon the amount of moisture present in the air, the depression of the wet-bulb thermometer indirectly measures the humidity of the air.

The maximum thermometer registers the highest temperature. When the temperature increases the mercury is forced through a contraction in the tube, and when the temperature falls, this mercury remains at the point of highest temperature, thus showing the greatest heat during the day. The minimum thermometer consists of a spirit thermometer, in the tube of which a glass index is placed. On account of the capillary adhesion between the alcohol and the glass, when the alcohol contracts it drags along with it the glass index; but when the alcohol expands, it passes by the index without displacing it, so that the position of the index shows the lowest temperature. The anemometer consists of four equal metallic cups, in the form of hemispheres, attached to two arms which cross each other at right angles, and are supported so as to turn freely about a vertical axis. It has been proved that, making no allowance for friction, the centre of each cup moves with one-third the velocity of the wind, and thus this instrument measures directly the wind's velocity. In connection with the anemometer there is a self-recording attachment by which the velocity of the wind is recorded on a sheet of paper ruled so as to indicate the velocity for each five minutes during the day.

The direction of the wind is designated by the point of the horizon from which it blows; the instrument for measuring the direction is called an anemoscope or wind-vane.

The rain-gauge measures the amount of rain which falls. It consists of a cylinder about eight inches in diameter to which is attached a tube two feet in length; one inch of water in the tube corresponds to one-tenth in the gauge.

The observations taken are sent to Washington, where the probabilities are made and sent by telegraph to all the cities throughout the country. This branch of the United States Service is destined to be one of great benefit to the country, if the appropriations are only increased to enable the establishment of more stations, and the employment of more men. At present, the number of men is entirely inadequate to the performance of the duties assigned them. The necessity of having such a service is becoming every day more apparent to the commercial and marine interest.

H. R.



# THE INDUSTRIALIST.

SATURDAY, JANUARY 22, 1876.

## WAR DEPARTMENT.

Signal Service, United States Army.

For the week ending, January 19th, 1876.

DAY.	Temperat'e			Bar'tr	Wind.		State of Weather
	Max.	Min.	Mean		Dirac-tion.	Veloc.	
Thursday...	44°	15°	33.2	30.471	S-E	4	Clear.
Friday.....	54	27	46.0	30.223	S	11	Cloudy
Saturday....	47	39	40.5	30.213	S-W	7	Cloudy
Sunday.....	55	37	45.2	29.920	S-W	7	Clear.
Monday.....	62	39	51.2	29.581	S-W	10	Clear.
Tuesday.....	50	25	30.7	29.867	N-W	17	Cloudy
Wednesday..	45	18	34.2	30.091	S-W	3	Clear.

Number of students enrolled this Term, 176.

Ed. Hunting can accommodate one more boarder.

School Bonds wanted. See advertisement in another column.

All the classes are now fairly at work, and things are just booming!

Subscribers wanted, advertisers wanted, money wanted by the cord to pay our bills.

Mrs. M. H. Jaquith has one room left and is thereby enabled to accommodate two more boarders.

Prof. Kedzie, who has been in the hands of the doctor this week, will hear all his classes next Monday.

Why doesn't some enterprising wanter of cash go into the business of carrying the mail, at least as far as the College? Work it up.

Prof. Kedzie has turned over the meteorological department of the INDUSTRIALIST to officer McFarland, who will be hereafter held accountable as "clerk of the weather."

There are now in attendance exactly the number of students enrolled during the whole of last term, from August to December, which was by all odds the best term we ever had.

In addition to furnishing the young folks of Kansas with a new Kansas paper, called the American Young Folks, Major Hudson has greatly improved the Kansas Farmer in the past few months. The employment of an engraver has proven a good thing for the readers, and each issue is well illustrated.

Since our last issue the following students have been enrolled: William P. Burnham, Fort Stanton, New Mexico; Reuben E. Lofinck, Manhattan, for a post graduate course; Clarence H. Hennings, New York City; Julia F. Rogers, Burlingame, Osage County; John H. Nelson, Bennington, Ottawa County.

The school bond question has had a shaking up, and parties are not so eager to buy as heretofore. We call attention to the advertisement of our Loan Commissioner. Districts desiring to sell bonds can obtain market rates from us, on furnishing such evidence in regard to the bonds and district as our Commissioner requires.

Among the ores received for analysis by the Chemical Department during the past week, is an interesting specimen from Phillips County, forwarded by A. D. Wilson. It is a variety of the mineral known as Tripoli consisting of nearly pure Silica, and is formed from the cast off shells of minute animal organisms. It is of not infrequent occurrence in Kansas.

The first lecture of the series of educational lectures under the auspices of Capitol Grange, was delivered by E. M. Shelton, Prof. of Practical Agriculture at the Kansas State Agricultural College, in Representative Hall in Topeka, January 14th. The hall was well filled with a very attentive audience. The lecture was the most practical and encouraging we ever heard from a scientific student of agriculture. By a vote of the meeting its publication will be made in the Farmer, where our readers may fully examine its substantial merits.—[Farmer.

## Signal Service Drill.

The recent wise action of the War Department, in establishing at the College an office of the Signal Service, will be beneficial in its effects in more ways than one. The telegraphic synopses and reports, "for the benefit of commerce and agriculture," which the office will dispense to the contiguous territory, will by no means be the sum total of its good work. It is, in addition, the wish and direct order of the chief officer, Gen. Myers, that it shall be made of educational value also, and that the drill which the office affords shall be made available to students in our course of study. This idea moreover is thoroughly in harmony with the practical aim of this Institution, which seeks to couple with every science in its curriculum its appropriate laboratory for practical work and experiment. To this end, therefore, arrangements have been effected by which the class in meteorology, under the charge and direction of the Chemical Department, will occupy each alternate day, not occupied by recitation, in work in the Signal Office under supervision of the officer in charge. Such work will embrace the practical handling of the instruments of the science, the estimations of corrections for temperature, instrumental error, etc; the construction of isobars. The importance of such a course of practice, in familiarizing the student with the methods by which the study of climate has been practically reduced to an exact science, can hardly be over-estimated. K.

## Students' Column.

Several of the students having from personal experience become aware of the inconvenience of keeping "bach," have clubbed together, rented a house and hired an elderly lady to cook for them. Each member bears an equal share of the expense, which will probably be about two dollars per week. They have one vacant room as yet; any gentleman desiring to take this room, and thus become a member of the club, will please apply at this office. S.

The Webster Society was conducted last Saturday night for the first time by the newly elected officers. All were well pleased with the result. The debate was much enjoyed by all present, subject: "Resolved, That we should resume specie payment." Decision in favor of the negative. Some of the persons present who did not favor the negative side, brought the subject up during extemporaneous speaking. The following names were proposed as suitable persons to become members of the society: S. F. Branson and A. Merritt. A vote of thanks was extended to Hon. S. S. Cobb, for several books presented by him to the society. Messrs. Arnold and Huston were elected directors to fill the places of Messrs. Hoyt and Midgley.

The Alpha Beta Society met as usual in Prof. Whitman's room. The room was well filled as a proposed amendment was to be brought up. Installation of officers was next in order, and A. A. Stewart was installed President; Miss E. E. Evans, Vice-President; W. H. Sikes, Treasurer; and C. M. Grover, Marshal.

The old President upon leaving the chair offered some excellent advice to the members of society. After the new President took the chair it was moved to pass directly to miscellaneous business, and the amendment was brought up. It proposed to strike out the clause forbidding members of another society to join the Alpha Betas. Considerable excitement was manifested by a number of the members, and the amendment was at length laid on the table. Mr. Blain was initiated as a member of the society.

On motion debate was omitted and extemporaneous speaking was in order. During which some of the speakers gave quite extended speeches on the amendment question. Several of the visitors spoke, among whom was Mr. A. J. Pillsbury, who spoke very favorably of the society. Mr. Foster gave a declamation. After reading of the minutes the society adjourned.

## Special Notices.

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A full line of groceries at Purcell's. Call and see them. 38

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Go to Purcell's for your coal oil. Only twenty cents per gallon. 38

A few students can be accommodated with rooms and boarding at the residence of C. F. Little.

A few students can rent rooms in the old College building at low rates. Apply to Major N. A. Adams, Secretary.

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SCHOOL DISTRICT BONDS.—Several thousand dollars in School District Bonds wanted Feb. 1st, for which the highest prices will be paid. Those direct from District Boards will always have the preference. In all cases, copies of all papers relating to the issue of the bonds must be forwarded, duly certified to by the district clerk. Blank bonds filled out ready for signature when desired. For prices and blanks, address E. GALE, Loan Commissioner, Manhattan, Kan.

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## WEBSTER SOCIETY OF THE

Kansas State Agricultural College.

Organized, Oct. 12th, 1868; chartered, Jan. 1871.

MOTTO: "Labor Omnia Vincit."

Meets Saturday evening each week.

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# THE INDUSTRIALIST.

SATURDAY, JANUARY 22, 1876.

## Students Enrolled Since Jan. 5, 1876.

NAME.	COUNTY.
Anderson, Bernhard	McPherson.
Arnold, Joseph F.	Indiana.
Bayles, John	Riley.
Beckwith, Weldon E.	Wabaunsee.
Blain, Arthur T.	Riley.
Bletcher, Frederick	Marshall.
Boies, Frank	Jefferson.
Brady, Louis R.	Riley.
Branson, Martin H.	Greenwood.
Branson, Samue. F.	Greenwood.
Brown, Mark L.	Riley.
Browning, Alice M.	Riley.
Browning, Emma E.	Riley.
Browning, Lois	Riley.
Buel, George K.	Wabaunsee.
Buel, Warren C.	Wabaunsee.
Burnham, Wm. P.	New Mexico.
Burroughs, Frank C.	Riley.
Burroughs, Lettie M.	Riley.
Campbell, Ettie A.	Riley.
Campbell, Florence	Riley.
Child, Ella	Riley.
Craig, Sarah	Paint Co., Mo.
Crowl, Florence	Pottawatomie.
Crowl, Jessie C.	Pottawatomie.
Davidson, Geo. K.	Riley.
Delahay, Charles	Leavenworth.
Dellinger, Jno. F.	Linn.
Dow, Chas. A.	Coffey.
Dutcher, Jay	Riley.
Eells, Allan B.	Riley.
Eells, Hattie M.	Riley.
Elliott, Willard S.	Riley.
Ellsworth, Miles	Atchison.
Emmons, Joseph N.	Pottawatomie.
Engle, Charles E.	Riley.
Engle, Laura E.	Riley.
Ensign, Ellen J.	Wabaunsee.
Ensign, Francis	Wabaunsee.
Evans, Esther E.	Plainfield, Ill.
Failyer, Geo. H.	Cherokee.
Failyer, Mariam	Cherokee.
Failyer, Miriam	Cherokee.
Fay, Chas. W.	Johnson.
Flack, Jno. B.	Dickinson.
Fletcher, Ellen	Riley.
Foster, Walter E.	Osborne.
Fraunberg, Wm. S.	Labette.
Fuller, A. P.	Franklin.
Gale, Ella M.	Riley.
Gale, Geo. A.	Riley.
Garrett, Nina	Wyandotte.
Gibbon, Jno. W.	Coffey.
Gillett, Chas.	Pottawatomie.
Griffing, Jno. S.	Riley.
Griffing, Wm. J.	Riley.
Grover, Chas. M.	Nemaha.
Grover, Ella	Pottawatomie.
Grover, Mary A.	Pottawatomie.
Haines, Harvey F.	Riley.
Harding, Rowanna	Riley.
Harding, Rowena M.	Riley.
Harmon, Webster	Jefferson.
Harper, Josephine C.	Riley.

Haun, Jno. C.	Harvey.
Hibbard, Alice	Riley.
Higinbotham, G. A.	Riley.
Houston, Chas. S.	Riley.
Houston, Grant U.	Riley.
Houston, L. N.	Riley.
Howard, Jasper M.	Riley.
Hoyt, Kate	Riley.
Hurlburt, Alice M.	Lyon.
Hulett, Turner C.	Johnson.
Humphrey, Carrie E.	Davis.
Humphrey, Louis E.	Riley.
Humphrey, Merritt	Davis.
Huston, Chas. M.	Davis.
Ingraham, Florence	Riley.
Kay, Jas. S.	Pottawatomie.
Kershaw, Jarvis	Riley.
Kimball, Carrie	Riley.
King, John	Marshall.
Knapp, Frank	Miami.
Knipe, Wm. A.	Riley.
Knostman, Emma	Riley.
Lane, William J.	Linn.
La Tourrette, Jas. F.	Colorado.
Leasure, Marion F.	Linn.
Lewis, Ira H.	Labette.
Lewis, John	Clay.
Lynch, James H.	Cherokee.
Mails, Chas.	Pottawatomie.
Mails, Jennie E.	Pottawatomie.
Maltby, Jas. C.	Saline.
Marlatt, Willie C.	Riley.
McCallum, Albert M.	Davis.
McCallum, Chas. P.	Davis.
McCallum, Daniel E.	Davis.
McCallum, Hattie E.	Davis.
McKanlass, Wm. W.	Davis.
McConnell, Chas.	Riley.
McNamee, John	Davis.
McNamee, Mary F.	Davis.
McNamee, Michael	Davis.
Meacham, Mary A.	Riley.
Meeker, Julian L.	Franklin.
Merritt, Arthur	Jefferson.
Noyes, Amelia	Wabaunsee.
Oursler, Alphonso R.	Jackson.
Parkerson, Fannie R.	Riley.
Parkerson, Freeman	Riley.
Parish, Effie	Riley.
Parish, Ella	Riley.
Parish, Emma	Riley.
Pechner, Lizzie M.	Riley.
Peckham, W. H.	Riley.
Penry, Chas. E.	Reno.
Perry, Geo. H.	Riley.
Pike, Frank H.	Marion.
Pillsbury, Nellie	Riley.
Platt, Augustus H.	Riley.
Platt, Geo.	Riley.
Powers, Herbert W.	Riley.
Quinby, Frank B.	Clay.
Rambo, Jas. W.	Lyon.
Redenbaugh, Lydia	Osage.
Reed, Nona	Shawnee.
Rhoades, Anna H.	Pottawatomie.
Richmond, Irving	Sedgwick.
Rogers, Hope L.	Dickinson.
Rogers, J. W.	Dickinson.
Rogers, L. B.	Dickinson.
Romick, J. W.	Dickinson.

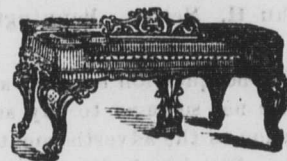
Roper, Nida	Riley.
Sawyer, Nellie	Franklin.
Shaw, James	Riley.
Sikes, Melva E.	Pottawatomie.
Sikes, William H.	Pottawatomie.
Simpson, Emma	Riley.
Smith, Leslie H.	Shawnee.
Sternberg, Albert	Ellsworth.
Sternberg, Chas. H.	Ellsworth.
Stiles, Albert H.	Pottawatomie.
Stockwell, Sam'l H.	Nemaha.
Stone, Anna	Riley.
Thompson, Chas. H.	Wabaunsee.
Thompson, Ella M.	Riley.
Thorpe, Hattie M.	Riley.
Thorpe, Jennie B.	Riley.
Todd, Irving	Riley.
Travelute, Charles F.	Marshall.
Ulrich, Wm.	Riley.
Veatch, Belle V.	Riley.
Wake, Geo. A.	Riley.
Wertzberger, Anna	Wabaunsee.
Whitehorn, Arthur	Riley.
Whitman, Ida G.	Osage.
Whitman, Minerva	Osage.
Whitney, Genevieve	Riley.
Whitney, George	Douglas.
Whitney, Kittie S.	Riley.
Whitney, Willard	Riley.
Whitted, Chas. S.	Osage.
Williston, Carrie	Riley.
Williston, Frank H.	Riley.
Wilson, Amos E.	Dickinson.
Winne, Ella M.	Riley.
Winne, Jno.	Riley.
Wood, Arlie	Labette.
Wood, Frank W.	Jefferson.
Woodman, Agnes M.	Riley.

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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, JANUARY 29, 1876.

No. 41.

## THE INDUSTRIALIST.

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### The Washerwoman's Song.

BY EUGENE WARE.

In a very humble cot,  
In a rather quiet spot,  
In the suds and in the soap  
Worked a woman full of hope;  
Working, singing, all alone,  
In a sort of under tone,  
"With a Savior for a friend,  
He will keep me to the end."

Sometimes happening along  
I had heard the semi-song,  
And I often used to smile,  
More in sympathy than guile,  
But I never said a word,  
In regard to what I heard;  
As she sung about her friend  
Who would keep her to the end.

Not in sorrow nor in glee  
Working all day long was she,  
As her children, three or four,  
Played around her on the floor;  
But in monotonous the song  
She was humming all day long,  
"With a Savior for a friend  
He will keep me to the end."

It's a song I do not sing,  
For I scarce believe a thing  
Of the stories that are told  
Of the miracles of old;  
But I know that her belief  
Is the anodyne of grief,  
And will always be a friend  
That will keep her to the end.

Just a trifle lonesome she,  
Just as poor as poor could be,  
But her spirit always rose,  
Like the bubbles in the clothes,  
And though widowed and alone  
Cheered her with the monotone,  
Of a Savior and a friend  
Who would keep her to the end.

I have seen her rub and rub,  
On the washboard in the tub,  
While the baby sopped in suds  
Rolled and tumbled in the duds,  
Or was paddling in the pools,  
With old scissors stuck in spools,  
She still humming of her friend  
Who would keep her to the end.

Human hopes and human creeds  
Have their root in human needs,  
And I would not wish to strip  
From that washerwoman's lip,  
Any song that she can sing,  
Any hope that songs can bring,  
For the woman has a friend  
That will keep her to the end.

—[Ft. Scott Monitor.

### The Past Century.

In all respects the century just closed was the grandest hundred years cycle in human affairs, apart from those sacred events which pertain to religion. With, perhaps, the single exception of classic art, which culminated two thousand years ago, there has been a majestic onward sweep of progress, such as no decade of centuries ever saw before. It would take a volume to catalogue the multitude of subjects that might be enumerated in illustration of that thesis, and, of course, no such attempt can be made in brief space.

But we may mention, as example, the development of agriculture, manufactures, mining, commerce, constructing mechanics and engineering; the destructive weapons of war; the more welcome implements of peace; the perfected steam engine; the far-reaching railway, with the imperial locomotive which devours distance; the stately steam ship; the rapid printing press, which throws open the gates of knowledge to the millions every day; the mowers and reapers and harvesters and myriad helps to the agriculturist; the mighty machine shops that infinitely multiply the power of human hands and human brains; the sewing machine, chloroform and ether; the multitudinous tools and implements; the wide diffusions of the conveniences, comforts and even the luxuries of life to hundreds of millions who knew them not a hundred years ago; the almost universal cheap mails and postage; the electric telegraph which has brought nearly all civilized people, however remote from each other, within speaking distance; the developments of the solar spectrum; the great march of geology; of chemistry, of electricity, of magnetism, of astronomy, of the curative arts of medicine and surgery, and of all the physical sciences, and of all the intellectual sciences; and more than all these the tremendous progress accomplished in the amelioration of the social condition of the peoples of civilized nations; the founding and building up of governments on just principles; and the recognition of the political equality of all men.

In all the matters above enumerated, and in many more unmentioned, most glorious lights flashed up and spread over the world, in the hundred years which for us closed a century of national existence. The kindling of these lights was at centres, and it is no vain self-pride which asserts that one of the most highly illumined of these centres is the country in which we live. Among the greatest material instrumentalities of progress given to the world in that hundred years, the reader will find already noted in these observations a grand representation of some of those which were born of the young ingenuity and activities of the United States; but the greatest of all, and that which has exerted the widest and most beneficent influence, is the declaration and the demonstration of the rights of men and women, because they are men and women—each the peer of all others, so long as he or she faithfully discharges all duties to God and fellow mortals.—[Atchison Champion.

### Industrial Drawing.

The following estimates of the usefulness of drawing in the public schools are given to the Boston Herald: "As to the great disciplinary and educational value of drawing, the testimony of teachers is very emphatic. Indeed, a decided majority of the teachers of the Boston schools to-day regard drawing as the most valuable of all studies, educationally considered, since it brings into healthy exercise so many different faculties. To take an instance: No other study trains vision to any like extent. It is one of the primal functions of drawing to teach the pupil, not only to see, but to see intelligently,

which so few are capable of doing. Again, it is of the very nature of this study to make the pupil neat and orderly, while it is one of its special functions to develop the taste for the beautiful. Of the great practical utility of drawing it is safe to say that no one who has thoroughly examined the subject entertains the slightest doubt. Indeed, no other study bears so directly and in so many ways upon so many kinds of labor. Now, the great majority of boys in the public schools of Boston will engage in some mechanical or other industrial pursuit. For them a knowledge of drawing will be almost indispensable. Hundreds of boys have left these schools during the last two years who will sooner become masters of their trades and will be better workmen all their lives because of their knowledge of drawing acquired in school. But the direct practical utility of drawing is not limited to the boys; for many of the girls in the public schools a knowledge of drawing will be the means of securing special and profitable employment, while it will better qualify every one of them to do many things that will fall to their lot."

### Studies for Farmer's Children.

Let young people commence with the rudiments and master such studies as will be attended with practical advantage to them in social, domestic and commercial life. Algebra is an excellent study for some persons. But of what service is algebra to a farmer who always keeps his accounts in arithmetical numbers? Of what advantage is algebra to an architect who is not an arithmetician of fair abilities? How much aid will a knowledge of algebra render a surveyor of land who is required to do all his figuring in chains and links, or in feet and inches?

Of what use is a fair knowledge of German to any one when he is required to talk and write always in the English language, even when he cannot prepare correctly a communication of 300 words for publication?

The practice of requiring young people to pursue studies that will give them no definite ideas of the great duties of life, that will not prepare them to fill stations of efficiency, is one that should be deprecated and should receive no sympathy from the people. Let a lad be taught something that will prove of practical advantage to him when he has become a man; and let girls be taught to feed and clothe the body, which is one of the most important lessons a young miss can learn. Let young people of both sexes be taught to speak and write the English language with correctness; then let them learn the names of plants, flowers, rocks and soils all about them; and let them exercise their faculties in the geography of their own States; and they will be far more intelligent and more estimable citizens than if these studies were neglected for a knowledge of German and algebra.—[New York Herald.

A PROPOSAL is now before the Prussian Ministry of Agriculture to award prizes for well managed small farms, as is the custom in East Flanders, as a means of encouraging high farming among small proprietors.



# THE INDUSTRIALIST.

SATURDAY, JANUARY 29, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## Signal Service.

In our last issue, we gave the number and names of all the instruments used in this science, and will now give a short outline of the general workings and manner of preparing the probabilities. At every station throughout the country three observations are taken daily at the same moment of actual time. The reports are immediately transmitted to the office of the Chief Signal Officer, at Washington, where, by a carefully arranged system of telegraphic operation, copies of the full reports of all stations thus transmitted to Washington are sent at the same time to most of the Signal Stations in our principal cities. At each station so receiving a tabular report, one or more bulletins are published. The observations are made synchronously, at the exact hours, 7:35 A. M., 4:35 P. M., and 11 P. M., Washington time. The bulletins exhibit the following particulars, viz., height of barometer, change since last report; thermometer, change in last twenty-four hours; relative humidity in per cent; direction of wind; velocity of wind in miles per hour; force or pressure of wind in pounds per square foot; amount of clouds; rain-falls since last report; and state of weather. The synopsis and probabilities, with which the public is familiar, through the columns of the different newspapers, are issued from the office of the Chief Signal Officer at 1 A. M., 10 A. M., and 7 P. M., daily. They are made up from the observations received from stations through the country.

The accuracy of these would be greatly assisted by local observations made at the same time as those of the observers of this division, with similar instruments, and by frequent local observations made during any time at which there is especial interest or anxiety as to the probable weather. The agriculturist or the student can supplement in this way, by the readings of his own instruments and his local knowledge, the reports furnished by the United States, and is fitted to arrive at intelligent conclusions. It should always be remembered that changes in weather generally give sign of their coming, for the instruments are affected before the wind actually begins to blow or the rain to fall; thus they may be said to enable us to feel the pulse of the atmosphere. The average height of the mercury in the barometer at sea level is about thirty inches. If the barometer rises steadily above its mean height, while the weather grows colder and the air becomes drier, north-westerly, northerly, or north-easterly winds may generally be expected. On the contrary, if the barom-

eter falls, while the weather grows warmer and the air becomes damper, wind and rain may be expected from the south-east, south, or south-west. The deviations from these general principles which are noticed correspond with the various changes of weather. If the weather grows warmer, while the barometer is high and the wind north-easterly, we may look for a shift of wind to the south. On the other hand, the weather sometimes becomes colder while the wind is south-westerly and the barometer low, and then we may look for a sudden squall, or perhaps a storm from the north-west with a fall of snow, if it be winter time. No absolute laws for weather can, however, be laid down. There is a rule about the way in which the wind changes, which is very important; it is well known to every sailor, and is contained in the following couplet:

"When the wind shifts against the sun,  
Trust it not, for back 'twill run."

The wind usually shifts with the sun, that is, from left to right, and a change in this direction is called veering. Next, noting the general features of the weather and sky, we complete the detailed representation of the atmospheric condition.

The clouds by their kinds and changes are indices to the relative temperatures, moisture, and pressure existing at high altitudes. By their motions they indicate the nature of the prevailing currents of air, showing whether it is from the tropics, and hence likely to be warm, or from the polar regions and cool.

The office at the College has been placed in fine condition, and any parties desiring to examine the workings of the various instruments would do well to call, as Mr. McFarland, the observer in charge of the station, will take pleasure in explaining to all parties interested.

H. F.

## Of Course Not.

It couldn't be done; any body could see that; of course not! And, besides, a college, even though it purported to give a "practical" education, was not the place to teach such things. If a girl wished to learn engraving, as a means of earning her own livelihood, let her graduate first, and afterwards apprentice herself to an engraver. That was the way it had always been done, and that is the way in which it ought to be done. The function of a college was to give a literary education, and the function of workshops to give a trade education. To attempt anything else would "lower" educational dignity, mix matters that should be kept separate, and prove a failure. That is what they said about it, and about several other similar questions.

We didn't see it in exactly that light. So far as literary branches are concerned, it is as easy to teach that knowledge which will afterward be used by the pupil in daily life, as to teach knowledge that is not used.

So far as the trades are concerned, if the proper instructors, tools and material are furnished, it is as easy to give instruction to the pupil in a workshop connected with a college, as in a shop not connected with a college. So far as the student is concerned, she cannot, under the old system, be an apprentice and go to school at the same time. She must devote her whole time to the one or the other. Therefore, any college which furnished both educations, at the same time, would be of inestimable advantage to the industrial classes.

Furthermore, the State law had opened the Agricultural College to both sexes. You won't make a farmer of a girl, because men can do farm work better and cheaper than women: and women can do other kinds of work better and cheaper than men. But this is an Institution for the benefit of the industrial classes. It can only take a girl for the purpose of giving her an education as an industrialist, one by the practice of which she can earn money. Hence, those trades which yield good wages to women, and which can be taught, ought to be introduced for her benefit as a worker. Neither printing, telegraphy nor engraving has any place in a farmer's training: but they may have an essential place in the industrial education of women. And this fact explains the presence of several departments in this College which, at first glance, strike strangers as being out of place.

We present this cut as a sample fact, bearing on the question whether engraving can be well taught in a college. It is the sole work of Miss Ella M. Gale, one of our students; and was a part of her class practice in the Engraving Department. It rather looks to us as if she had learned to use the chisels, as she had previ-

ously learned to handle the pencil. She isn't perfect, but she has only used the chisels a few months; and we submit that if, in so short a period, she can do so well as this, with greater practice she can do far better. And we submit furthermore, that, if need be, she can make a far better living as an engraver than, at the close of the same period, her equals, graduating from literary colleges, could do with their education. If the Legislature will properly equip the several departments of this College, another year will enable us to give similar answers to several other "of-course-nots."





# THE INDUSTRIALIST.

SATURDAY, JANUARY 29, 1876.

## WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, January 26th, 1876.

DAY.	Temperat'e			Bar'tr	Wind.		State of Weather
	Max.	Min.	Mean		Dir- ec- tion.	Veloc.	
Thursday...	45°	25°	32.5	30.121	S-W	8	Cloudy
Friday.....	39	25	33.7	30.023	S-E	8	St R'n
Saturday.....	39	24	26.2	30.137	N-W	9	Cloudy
Sunday .....	24	11	14.5	30.517	N-W	11	Fair.
Monday.....	42	8	29.7	30.308	S-W	6	Clear.
Tuesday.....	39	16	26.5	30.156	N-W	5	Cloudy
Wednesday	53	25	38.7	29.620	S-W	8	Cloudy

Rain-fall in inches, .01.

Number of students enrolled this Term, 176.

Ed. Hunting can accommodate one more boarder.

School Bonds wanted. See advertisement in another column.

Subscribers wanted, advertisers wanted, money wanted by the cord to pay our bills.

Mrs. M. H. Jaquith has one room left and is thereby enabled to accommodate two more boarders.

The Nationalist is receiving regular reports of College items from Louis B. Rogers. He will do it well.

A few students can rent rooms in the old College building at low rates. Apply to Major N. A. Adams, Secretary.

J. B. Wadleigh is ornamenting his bill and letter heads with a very pretty cut of a pine tree, engraved for him by Miss Ella Gale.

PEAR TREES.—If you want one-year-old Kansas grown pear trees, by the hundred or thousand on cash terms, address E. Gale, Sup't Horticultural Department.

The Fourth Annual Report of the State Board of Agriculture is just as far ahead of the report of any other State as the report for 1874 was ahead of previous reports. It contains a great variety of matter and is finely illustrated. Those interested in facts will strike a bonanza of them in the Census returns, which are given in full. Having served a couple of years as statistician to an eastern association, we know, practically, the labor and care inseparable from such work; and congratulate both the State and Secretary Gray upon the admirable manner in which he has executed his part.

A year ago we had a barn, a substantial, stone edifice, costing \$11,000. It had fine windows, beautiful ceilings, and handsome doors. It was warm, dry and pleasantly located. In short, everything that could appeal to the higher and better natures of animal kind had been done for the place. But even here there were disadvantages. A load of hay could not be driven into the barn. The half mile walk for water exercised both man and beast but was inconsistent and expensive as two men were constantly required to care for the stock. So we cheerfully surrendered this spacious dwelling of our high bred animals to the literary department, marched our stock across the fields till we found water and plenty of it; and close by, a building was erected. This building cost \$173; it is quite as comfortable and more convenient than the \$11,000 affair, for, although our herd has nearly doubled, one man finds no difficulty in doing all the "chores."

Some changes have been made in the offices on the telegraph line this term. Below we give offices and office calls:

I. K. Perry.....	PR.
G. C. Wilder.....	BN.
Kansas Pacific Depot.....	MN.
Post Office.....	PO.
Wake.....	W.
Whitman.....	MW.
Hoyt.....	NI.
Mechanical Building.....	F.
President's house.....	A.
Huston.....	X.
Oursler.....	AR.
College Building, Superintendent's Office.....	WS.
Flack.....	N.
Platt.....	RK.
Sternberg.....	MU.
Burroughs.....	BR.
College Hill.....	Q.
Hurlburt.....	CH.
Merritt.....	M.
Gen. Davidson's.....	KD.
Fraunberg.....	D.
Wilson.....	AE.

## FARM ITEMS.

Our stock without exception does excellently well the present winter. What with mild weather, abundant corn and hay, and the round prices paid for stock of all kinds, Kansas is indeed the paradise of stock men. We have to report only two cases of sickness with the stock thus far during the winter. That common scourge of young calves, the "scours," for a time severely afflicted one of our most promising young Shorthorns. We have found no difficulty in completely subduing this complaint with the following remedy, given as a drench morning and evening: Prepared chalk, three tablespoonfuls, and one hard boiled egg, intimately mixed. Shake up in one pint of warm water and add flour enough to give it the consistency of milk.

We have had two rather severe cases of ophthalmia within a couple of years, the last one happening very recently. The symptoms of this disease are not easily mistaken; one or both of the eyes appear greatly swollen, a copious discharge of tears takes place, the conjunctiva is red and inflamed, and finally the cornea becomes clouded with a film. A close examination of the eye frequently reveals a barley beard, or piece of chaff or dust, as the cause of the irritation, though often nothing of the kind can be discovered. The animal should be kept out of the light, and the eye carefully examined, and if possible the irritating substance removed. Take tincture of Belladonna, ten drops to half a teacupful of warm water, and bathe thoroughly around the eye, three times daily, taking pains that none of the liquid enters the eye. In severe cases, clear Belladonna may be used. We have employed this treatment in many cases, but have never yet known it to fail. However, in cases where a dense cataract is formed some more direct agency, as sulphate of zinc, may be necessary to hasten absorption.

To Mr. F. W. Gunther, Victoria, Kansas, we have just forwarded one Berkshire gilt, which, with a three hundred and fifty pound shoat, dressed weight, taken by the butchers, makes the total of live stock transactions on the College farm for the past week.

The mild winter seems to be just as favorable for winter wheat as for stock. Have never seen wheat look better at this season. About one-third of our twenty acres of winter wheat, was summer-fallowed last year; that is, it was plowed in May, and then cross-plowed in August following. The present indications are that the summer-fallowed portion will give double the yield of the remainder of the field.

Messrs. E. B. Crofutt & Co., of Syracuse, N. Y., give us, at a considerable reduction of price, one of their Excelsior Root-Cutters. The great advantage of this machine, besides cutting very rapidly, is, that careless hands cannot set it so as to cut large slices.

## Students' Column.

The Webster Society met as usual. Subject of debate: "Resolved, That the chief literature of the age, is, on the whole, beneficial to general morality." The subject was well discussed and all were well pleased with the result, as the debate showed much improvement in some of the new members. The Society extends a cordial invitation to any one who should wish to visit it.

REPORTER.

## ENIGMA. No. 1.

My first is in song, but not in tree;  
My second is in one, but not in three;  
My third is in light, but not in might;  
My fourth is in wrong, but not in right;  
My fifth is in mountain, but not in a hill;  
My sixth is in corn, but not in the mill;  
My seventh is in bring, and also in ring.  
My whole you will find is an ancient king.

Answer given next week.

The Alpha Beta Society met in the usual place, on Friday afternoon, the 21st. The room was well filled, as it has been so far this term. Miss Sikes was installed Recording Secretary and took her place. The critics and judges were appointed and debate was in order. The question was "Would the United States be justified in interfering in Cuban affairs." The debaters got somewhat excited before they were through, and the debate was very interesting. Decision in favor of the negative. The order of extemporaneous speaking was passed, as the paper was in order for the week. "The Gleaner," edited by G. A. Gale and Miss Miriam Fallyer, was very entertaining. The members are taking hold with considerable zeal to help support it, and the Gleaner promises to be a permanent thing. During miscellaneous business considerable excitement was raised. There was an attempt to take the constitutional amendment question from the table, but it was defeated. After the report of critics and reading of the minutes, the society adjourned. Several new names will be balloted on next week. Visitors always welcome.

REPORTER.

**SCHOOL DISTRICT BONDS.**—Several thousand dollars in School District Bonds wanted Feb. 1st, for which the highest prices will be paid. Those direct from District Boards will always have the preference. In all cases, copies of all papers relating to the issue of the bonds must be forwarded, duly certified to by the district clerk. Blank bonds filled out ready for signature when desired. For prices and blanks, address  
E. GALE, Loan Commissioner,  
Manhattan, Kan.

**Dr. Patee.**

20-1f

**H. S. Roberts, M. D.**—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

**Physician and Surgeon.**—L. J. Lyman, M. D. Prompt attention given to calls, day or night. Office and residence No. 27, Poyntz Avenue, Manhattan. 37-3m

**Bookseller and Stationer.**—S. M. Fox, dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127, Poyntz Avenue, Manhattan. 37-3m

**Clothier.**—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A winter stock just received. Opposite post-office, Manhattan. 37-3m

**Webster Society** of the Kansas State Agricultural College. Organized, October 12th, 1868; chartered, January, 1871. Motto: "Labor Omnia Vincit." Meets Saturday evening each week. A. R. OURSLER, President.  
WEBSTER HARMON, Secretary.

**Alpha Beta Literary Society.**—Organized, October 17, 1868; chartered, December 26, 1870. The Society holds its sessions, in the College building, every Friday afternoon at two o'clock. Both ladies and gentlemen admitted. Visitors always welcome. A. A. STEWART, President.  
MISS MELVA SIKES, Secretary.

**Telegraphy.**—Four miles of line, twenty-five line instruments, and daily instruction and drill, by an experienced operator, in sending, receiving, office accounts, reports, and telegraphic book-keeping. No charge, except for blanks; say \$3 per Term. Special course of lectures by Prof. Kedzie on electricity, battery, etc.

**Manhattan Bank.**—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

**Mathematics.**—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics, Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

**The Annals of Kansas.**—By Daniel W. Wilder, now ready for delivery. This book contains 691 pages. It is a Kansas Dictionary. It has double the amount of reading matter contained in Sherman's Memoirs, and three times as much as the thirteenth volume Kansas Supreme Court Reports. Price, postage prepaid, \$5.00. Orders solicited. Cash must accompany each order.  
30-1f GEO. W. MARTIN, Publisher.

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The Literary Departments offer a thorough education in the construction and use of the English Language, as employed by the Proof-Reader; in Book-Keeping; and in Industrial Drawing, as the best developer of that Taste necessarily exercised by every good Job Printer.

## THE PRINTING DEPARTMENT

is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer.

Besides regular class instruction in printing, the weekly publication of the Industrialist by the Department furnishes advanced students the requisite drill in newspaper work.



# THE INDUSTRIALIST.

SATURDAY, JANUARY 29, 1876.

Students Enrolled Since Jan. 5, 1876.

NAME.	COUNTY.
Anderson, Bernhard	McPherson.
Arnold, Joseph F.	Indiana.
Bayles, John	Riley.
Beckwith, Weldon E.	Wabaunsee.
Blain, Arthur T.	Riley.
Bletcher, Frederick	Marshall.
Boies, Frank	Jefferson.
Brady, Louis R.	Riley.
Branson, Martin H.	Greenwood.
Branson, Samuel F.	Greenwood.
Brown, Mark L.	Riley.
Browning, Alice M.	Riley.
Browning, Emma E.	Riley.
Browning, Lois	Riley.
Buel, George K.	Wabaunsee.
Buel, Warren C.	Wabaunsee.
Burnham, Wm. P.	New Mexico.
Burroughs, Frank C.	Riley.
Burroughs, Lettie M.	Riley.
Campbell, Ettie A.	Riley.
Campbell, Florence	Riley.
Child, Ella	Riley.
Craig, Sarah	Paint Co., Mo.
Crowl, Florence	Pottawatomie.
Crowl, Jessie C.	Pottawatomie.
Davidson, Geo. K.	Riley.
Delahay, Charles	Leavenworth.
Dellinger, Jno. F.	Linn.
Dow, Chas. A.	Coffey.
Dutcher, Jay	Riley.
Eells, Allan B.	Riley.
Eells, Hattie M.	Riley.
Elliott, Willard S.	Riley.
Ellsworth, Miles	Atchison.
Emmons, Joseph N.	Pottawatomie.
Engle, Charles E.	Riley.
Engle, Laura E.	Riley.
Ensign, Ellen J.	Wabaunsee.
Ensign, Francis	Wabaunsee.
Evans, Esther E.	Plainfield, Ill.
Failyer, Geo. H.	Cherokee.
Failyer, Mariam	Cherokee.
Failyer, Miriam	Cherokee.
Fay, Chas. W.	Johnson.
Flack, Jno. B.	Dickinson.
Fletcher, Ellen	Riley.
Foster, Walter E.	Osborne.
Fraunberg, Wm. S.	Labette.
Fuller, A. P.	Franklin.
Gale, Ella M.	Riley.
Gale, Geo. A.	Riley.
Garrett, Nina	Wyandotte.
Gibbon, Jno. W.	Coffey.
Gillett, Chas.	Pottawatomie.
Griffing, Jno. S.	Riley.
Griffing, Wm. J.	Riley.
Grover, Chas. M.	Nemaha.
Grover, Ella	Pottawatomie.
Grover, Mary A.	Pottawatomie.
Haines, Harvey F.	Riley.
Harding, Rowanna	Riley.
Harding, Rowena M.	Riley.
Harmon, Webster	Jefferson.
Harper, Josephine C.	Riley.
Hann, Jno. C.	Harvey.
Hennings, Clarence H.	New York.
Hibbard, Alice	Riley.
Higinbotham, G. A.	Riley.
Houston, Chas. S.	Riley.
Houston, Grant U.	Riley.
Houston, L. N.	Riley.
Howard, Jasper M.	Riley.
Hoyt, Kate	Riley.
Hurlburt, Alice M.	Lyon.
Hulett, Turner C.	Johnson.
Humphrey, Carrie E.	Davis.
Humphrey, Louis E.	Riley.
Humphrey, Merritt	Davis.

Huston, Chas. M.	Davis.
Ingraham, Florence	Riley.
Kay, Jas. S.	Pottawatomie.
Kershaw, Jarvis	Riley.
Kimble, Carrie	Riley.
King, John	Marshall.
Knapp, Frank	Miami.
Knipe, Wm. A.	Riley.
Knostman, Emma	Riley.
Lane, William J.	Linn.
La Tourette, Jas. F.	Colorado.
Leasure, Marion F.	Linn.
Lewin, John	Clay.
Lewis, Ira H.	Labette.
Lofinck, Reuben E.	Riley.
Lynch, James H.	Cherokee.
Mails, Chas.	Pottawatomie.
Mails, Jennie E.	Pottawatomie.
Maltby, Jas. C.	Saline.
Marlatt, Willie B.	Riley.
McCallum, Albert M.	Davis.
McCallum, Chas. P.	Davis.
McCallum, Daniel E.	Davis.
McCallum, Hattie E.	Davis.
McKanlass, Wm. W.	Davis.
McConnell, Chas.	Riley.
McNamee, John	Davis.
McNamee, Mary F.	Davis.
McNamee, Michael	Davis.
Meacham, Mary A.	Riley.
Meeker, Julian L.	Franklin.
Merritt, Arthur	Jefferson.
Nelson, John H.	Ottawa.
Noyes, Amelia	Wabaunsee.
Oursler, Alphonso R.	Jackson.
Parkerson, Fannie R.	Riley.
Parkerson, Freeman	Riley.
Parish, Effie	Riley.
Parish, Ella	Riley.
Parish, Emma	Riley.
Pechner, Lizzie M.	Riley.
Peckham, W. H.	Riley.
Penry, Chas. E.	Reno.
Perry, Geo. H.	Riley.
Pike, Frank H.	Marion.
Pillsbury, Nellie	Riley.
Platt, Augustus H.	Riley.
Platt, Geo.	Riley.
Powers, Herbert W.	Riley.
Quinby, Frank B.	Clay.
Rambo, Jas. W.	Lyon.
Redenbaugh, Lydia	Osage.
Reed, Nona	Shawnee.
Rhoades, Anna H.	Pottawatomie.
Richmond, Irving	Sedgwick.
Rogers, Hope L.	Dickinson.
Rogers, J. W.	Dickinson.
Rogers, Julia F.	Osage.
Rogers, L. B.	Dickinson.
Romick, J. W.	Riley.
Roper, Nida	Franklin.
Sawyer, Nellie	Riley.
Shaw, James	Pottawatomie.
Sikes, Melva E.	Pottawatomie.
Sikes, William H.	Riley.
Simpson, Emma	Shawnee.
Smith, Leslie H.	Ellsworth.
Sternberg, Albert	Ellsworth.
Sternberg, Chas. H.	Pottawatomie.
Stiles, Albert H.	Nemaha.
Stockwell, Sam'l H.	Riley.
Stone, Anna	Wabaunsee.
Thompson, Chas. H.	Riley.
Thompson, Ella M.	Riley.
Thorpe, Hattie M.	Riley.
Thorpe, Jennie B.	Riley.
Todd, Irving	Marshall.
Travelute, Charles F.	Riley.
Ulrich, Wm.	Riley.
Veatch, Belle V.	Riley.
Wake, Geo. A.	Wabaunsee.
Wertzberger, Anna	Riley.
Whitehorn, Arthur	Osage.
Whitman, Ida G.	Osage.
Whitman, Minerva	

Whitney, Genevieve	Riley.
Whitney, George	Douglas.
Whitney, Kittie	Riley.
Whitney, Willard	Riley.
Whitted, Chas. S.	Osage.
Williston, Carrie	Riley.
Williston, Frank H.	Riley.
Wilson, Amos E.	Dickinson.
Winne, Ella M.	Riley.
Winne, Jno.	Riley.
Wood, Arlie	Labette.
Wood, Frank W.	Jefferson.
Woodman, Agnes M.	Riley.

**A Thorough and Direct Education,** at the Kansas State Agricultural College, for the Farm, Orchard, Shop and Store. Tuition Absolutely Free! The winter term began Wednesday, Jan. 5, and closes Wednesday, May 24, 1876.

**Kansas Publishing House.**—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

**English Language.**—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

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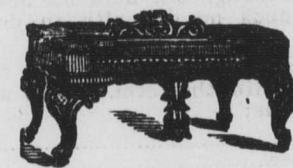
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# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, FEBRUARY 5, 1876.

No. 42.

## THE INDUSTRIALIST.

Published every Saturday by the  
PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kansas.

### The Ways to Agricultural Improvement.

[An abstract from an Address delivered by Prof. E. M. Shelton, of the State Agricultural College, in Representative Hall, Topeka, January 14th, 1876.]

[From the Kansas Farmer.]

I am free to confess that this educational work of the Grange is the side of the movement in which I am most interested, and I can hardly conceive it possible that an organization of men and women, thus intelligent, having a common cause and occupation, can come short of exerting a powerful and direct influence upon agriculture.

Agriculture is an empirical or experimental art. Its truths and methods are not the product of facts worked out in the chemist's laboratory or student's closet. A true system of agriculture is simply a compilation of experiences. "The best experience of the best men," is what is most needed. If the experience of a single individual is as valuable as that of a dozen, then there is no use for these farmers' meetings, for they multiply the hands and the eyes of every member. Precisely the arguments that are used against the Grange in this matter are used against the farmers' clubs, agricultural papers and books, and that much persecuted class, the "book farmers." The truth is, that everywhere the advanced agriculturist is a Granger or "book farmer," and usually both.

But, aside from this direct education of the farmer for the farm, there is another and even more important work that these Grangers must inaugurate, if not actually carry out, and that is that general and indirect education which will make our moral population not only better farmers but more intelligent citizens. Take any of the important matters that thoughtful men have proposed as the special work of the Grange, co-operation in buying and selling, the movement for cheap transportation, industrial education; all these are confessedly just, nay, they are urgent necessities. Then why have they not had an existence outside of resolutions and speeches by masters and lecturers? I answer, because at every step they have had to encounter the inertia of indifference and positive mistrust, the legitimate offspring of ignorance. The National Grange has proposed a plan for co-operation among our farmers which would of itself prove to them an annual saving of hundreds of thousands of dollars. If this worthy scheme should fail, it will fail because the laity of your order have not yet been educated up to it. Yes, my friends, this educational movement of the Granges is the grandest step that has yet been taken by your order, because it is a

radical one, and because all your other reforms are contingent upon it.

But in this educational work of yours I apprehend your wants as farmers will not be neglected or lost sight of, and the question will come up what shall we teach as a way to Agricultural Improvement? This question I shall attempt to answer, in part, to-night.

It is curious to notice the varying values that have been placed upon human knowledge in different ages of the world. Before the times of Lord Bacon, philosophy and science had no direct influence upon the masses. They were rather regarded as the tools and playthings of the philosophers, matters in which the vulgar were neither directly nor indirectly interested. Macaulay tells us that "the ancients did not neglect natural science, but they did not cultivate it for the purpose of increasing the power or ameliorating the condition of men. Seneca wrote largely in natural philosophy, and magnified the importance of that study. But why? Not because it tended to assuage suffering, to multiply the conveniences of life, to extend the empire of man over the material world, but solely because it tended to raise the mind above low cares, to separate it from the body, to exercise its subtlety in the solution of very obscure questions."

With the advent of Bacon all this was changed. Like a giant he reached out his hands and wrestled philosophy from her crooked paths. He did more than this; he gave her a fresh inspiration and a new name, and on her banners he wrote the watchwords of the age, "Utility and Progress."

I need not tell you, to-night, how Bacon made the modern sciences a possibility; how baseless superstitions took the form and coherence of natural science; how the mysterious incantations of the old alchemists became changed into chemical nomenclature and the science of mineralogy, just as long before astrology had given place to astronomy; and in the commercial world men had been pirates and buccaneers before they became merchants. But this was not all. Men refuse to regard all this wealth of knowledge as simply a mental gymnasium upon which the athlete might test his strength and prove his endurance. They took this knowledge and they applied it to the every-day affairs of life; they made it light our streets and warm our dwellings, and in a thousand ways contribute to the weal of man. But with all this advance of Science, it is questionable if she has kept pace with her elder sister, Art.

Arkwright, whose invention of the spinning jenny laid the foundation to England's manufacturing greatness, was an illiterate "West country" operative; scarcely more may be said of the elder Peel; and George Stephenson himself, whose locomotives carry our civilization, could not have answered a simple question on the expansion of vapors, or the momentum of moving bodies. M. De Lesseps, whose Suez canal has done what all the clashing armies of Europe could not do — settle the Eastern question — was not even a civil engineer by profession.

The modern improvements in domestic animals even more forcibly illustrate this truth; the Collings Brothers and Thomas Bates, whose Shorthorns have sold for almost their weight in gold, were bluff English Squires who could not have defined anatomy or physiology. Tompkins, whose white-faced Herefords have been so universally admired, was a plain milk-man who, marrying his master's daughter, came into possession of a couple of cows, the foundation of the breed of Herefordshire.

I might enlarge upon this subject almost indefinitely, but I believe enough has been said to show that, much as we are indebted to science and scientific men in what are called the arts, we are under even greater obligations to that impulse called art which, knowing nothing of general laws or systematically arranged facts, consults directly its own material wants.

Let us look briefly to the relation sustained by science to the special topic of agriculture, with the view to ascertaining whether we must look to science or art, or both, as a way to agricultural improvement. Let us enquire further than this; if these practical principles are the body of agriculture, if they cannot be neglected in our efforts to improve agriculture, are they not worth considering in planning the education of the farmer?

The rapid progress of scientific discovery in recent times, and the impulse that many of the arts have received from this advance of scientific truth, have led thoughtful men to ask if the farmer may not expect from science the same direct aid that calico printing and steel manufacturing have received. But if we look at this question impartially we shall see that agricultural conditions differ essentially from those obtained in those arts that have been especially benefited by science.

Take, for example, calico printing, or the art of working metals; we have here conditions that are comparatively simple; all are under our control; and in every case pertinent, definite questions are propounded. The Bessemer process of manufacturing steel directly from cast iron, justly ranks among the great inventions of the century, and yet the question which Mr. Bessemer so ably solved is a simple one in comparison with almost any of the agricultural problems which vex the farmer. The farmer has to deal constantly with variable seasons and temperatures; with the obscure changes constantly going on in the soil and plant; and above all with the mysterious principle of life. What is life? How does the sap rise from the root to the leaf? These are questions which the idle rustic might answer just as satisfactorily perhaps as Agassiz or Tyndall. Even what would seem so simple a matter as the action of fertilizers is wrapt in mystery.

A distinguished modern writer on agricultural chemistry says: "We are every day drifting further from what was considered a few years ago one of the most fixed and beneficent principles of agricultural

[Continued on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, FEBRUARY 5, 1876.

J. A. ANDERSON, Managing Editor. J. H. FOLKS, Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## Dairying.

Dairying is one of the greatest industries of the United States. The value of the dairy products is annually about \$4,000,000,000. Of the butter and cheese manufactured annually in the United States, about one-fifth of the former, and one-half of the latter, is made in the State of New York. Twenty years ago factory-made cheese and butter were unknown in the markets. Now, in the State of New York alone, there are one thousand churn factories and creameries. During the same time the quality of New York butter and cheese has been greatly improved, and the aggregate value of their annual product in that State has been greatly augmented. It is only by producing butter and cheese of the highest possible quality that the dairymen of New York and other Eastern States can retain their prestige. The medium and inferior grades of butter and cheese can be more cheaply furnished by the farmers of the North, than by them.

Dairying is rapidly becoming one of the industries of Kansas. In 1875, there were manufactured 8,827,810 pounds of butter and 1,240,610 pounds of cheese. Comparing 1870 with 1875, we find that the increase of cheese is 447 per cent, and of butter 75 per cent. Increase of the number of milch cows was 100 per cent. The cheese manufactured in 1875 was 187 per cent more than in 1874, and the butter 18½ per cent. In 1873, there were cheese factories in eight counties of the State; in 1874, twenty-six counties had cheese factories.

As a business, dairying can be made more profitable in Kansas, if it is properly conducted, than in central New York. Of the numerous data upon which I base the foregoing proposition, I submit the following. Both of the farmers named are laboring men, doing as much of their work as is possible for them to do:

By request, Mr. H. Hale, Norwich, N.Y., gave me recently his farm report for 1875.

Farm, 250 acres, @ \$100 per acre..... \$25,000  
Cows, thirty-eight @ \$55 each..... 2,090

Capital invested, \$27,090  
Income for 1875:  
Butter..... \$1,800  
Stock sold..... 500  
Pork..... 100  
Hogs..... 500

\$2,900  
Paid for help..... 250

Net increase, \$2,650

Income for year, 9.7 per cent on capital invested in farm and cows. Average income per cow, \$47.37. If the land had been rated at fifty dollars per acre, a low average rate for New York State, the income would have

been 11½ per cent on capital invested.

In contrast to this, I give the report of Mr. Hill, who resides some four miles north-east of Manhattan:

Farm, 50 acres..... \$900  
Cows, eight..... 200

Capital invested, \$1,100

Income for 1875:  
Butter, 1,085 pounds..... \$245  
Raised six fine calves..... 50

Net income, \$295

Increase on capital invested, 26.8 per cent, or almost three times as much as my friend makes in New York. Mr. Hill's cows earned him, besides the raising of the six calves, on an average, \$30.62. In the summer the cows grazed on the bluffs; during the present winter he is feeding them cornstalks and meal. Mr. Hill hires no help, works some twenty acres on shares, upon which he raises grain for his team and cows.

A comparison of the profits of cheese-making in New York and Kansas, show a like favorable result for Kansas.—[Prof. Ward.

## Taxation of College Lands.

TOPEKA, Kan., January 24th, 1876.

N. A. ADAMS, Esq.,

Sec'y State Agricultural College,  
Manhattan, Kansas.

DEAR SIR:—I have received your letter of the 6th inst., with papers enclosed, in which are submitted to me certain questions concerning the taxation of the Agricultural College lands, as follows:

First: Does the decision in case of Mathias Oswalt vs. J. B. Hollowell, Treasurer of Washington county, apply to all lands sold prior to the date, Sept. 7th, 1875, of that decision?

Second: Are county officers authorized to assess taxes on these lands prior to the date, 1873, covered by the case decided; and, if so, shall they add penalty and interest, or either, as in case of taxes when annually levied and not paid at the proper time.

Third: Under the law of 1871, (Session Laws, P. 31, Sec. 7,) does not the State retain such right of ownership, as that the land will revert, in case of forfeiture, to the State; and could this be the case if the lands were sold and deeded for taxes?

Fourth: Attorney-General Williams, in response to a letter addressed to him by me, as assuming the position of agent for the sales of these lands, replied, "These lands are not taxable under the law as it now stands, until the final payments have been made on them." A similar decision had also been made by one of his predecessors, and all the lands sold by myself as agent, and by my predecessor, Mr. Goodnow, were sold with the representation that these lands were not taxable; (as reference, see enclosed slip, marked "A,") and though the bonds given made no specifications as to the subject of taxes, (see copy of bond now used by me, marked "B,") and sample of the

bond given by Mr. Goodnow, which may be seen in the office of the State Auditor,) there was a verbal agreement, and written and printed also, in many cases, which, though not a part of the bond, induced men to purchase these lands. In such cases, will the State be held, through its agents for the sale of the lands, to pay the taxes until patents are issued?

Fifth: Referring to the opinion of the Supreme Court, which states that, "It will be the duty of the Board of Regents and of the Legislature, which meets annually, as well as the purchaser of the land, to see that no tax title is obtained against the land," what course is to be pursued? I am advised that several tracts of these lands are advertised in Marshall county, to be deeded in May next, unless redeemed. Can Marshall county be prevented from deeding these lands, and by what authority does she deed them when they have only been held to be taxable since the decision of the Supreme Court, made Sept. 7th, 1875?

L. R. ELLIOTT,

Agent K. S. A. C. Lands.

Concerning the first question: The Court, in giving the opinion in the case of Oswalt vs. Hollowell, did not, of course, then make the law as stated therein, but declared the law and applied it to the facts of that case. The tax in question was assessed and the levy made in 1873, but the plaintiff, by his purchase of the land, December 6, 1867, then acquired the equitable title to the land which thereafter became subject to taxation. At and before the date of said purchase, the provisions of the Constitution referred to in said opinion were in full force and effect; also, each and all the provisions of the tax law, which are referred and relied upon in said opinion, were in force from and after March 15, 1868.

It is evident, I think, from the opinion in the above case, that said land might have been taxed during each of the years following the purchase prior to 1873.

Concerning the second question: Under Section 55, chapter 107, of the General Statutes, and Section 1, Chapter 147, Laws of 1875, lands which for any reason have not been assessed for taxation for any former year or years when the same were liable to taxation, may be assessed and placed upon the tax roll. All taxes charged up under the provisions of Chapter 147, Laws of 1875, are exempt from any back penalties or interest.

As to the third question: My answer to this question is a general one, as follows: It seems to me that if a tax-deed be duly obtained upon any of the Kansas State Agricultural College lands, which had been sold by the agent for the sale thereof, that the College, or the State, loses its lien upon such lands for the remainder of the purchase money due thereon.

Fourth question: In the case stated in this question, it seems to me that the State is bound by the agreement made with the purchaser that these lands are not-taxable until patents are issued.

Concerning the fifth question: I am not yet prepared to advise as to the course to be pursued. I do not see how Marshall county is to be prevented from deeding certain lands. And as to the authority of said county to deed said lands, the answer is found in the decision of the Supreme Court in the case above mentioned.

Very Respectfully,

A. M. F. RANDOLPH,

Attorney-General.



# THE INDUSTRIALIST.

SATURDAY, FEBRUARY 5, 1876.

## WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, February 2d, 1876.

DAY.	Temperat'e			Bar't'r	Wind.		State of Weather
	Max.	Min.	Mean		Dirac-tion.	Veloc.	
Thursday...	47°	25°	36.5	29.423	S-W	6	Cloudy
Friday.....	45	13	25.5	30.108	N-W	40	Clear.
Saturday.....	28	3	21.0	30.537	S-W	15	Clear.
Sunday.....	45	19	21.2	29.894	S	15	Clear.
Monday.....	40	6	34.0	29.969	W	40	Fair.
Tuesday.....	10	-7	3.5	30.556	N-W	18	Clear.
Wednesday	40	1	26.6	30.086	S-W	12	Fair.

HARRY F. MCFARLAND,  
Serg't Signal Service.

Number of students enrolled this Term, 181.

The chemical laboratory is now being fitted up for the use of the class in chemical analysis, who will shortly begin work. The laboratory will now accommodate twenty-two students at one time.

Since our last report the following students have entered; Samuel R. Hodges, Strawn, Coffey county; Ada E. Brown, Anna C. Clark and Frank Haman, Manhattan; S. C. Shuemaker, Wetmore, Marshall county.

By reference to notice in another place, it will be seen that S. C. Shuemaker has again entered the College. His jovial, jolly manner, and his musical talent, to say nothing of his other good qualities, have secured for him a hearty welcome.

Mr. Jos. N. Emmons, a student of this College, has deposited with the philosophical cabinet of the Chemical Department, a beautiful steam engine of his own manufacture, while at work in a model shop in Detroit. This little model engine is large enough to exert considerable power, having a drive wheel eight inches in diameter.

The Bluemont Farmer's Club will hold an Institute in Manhattan, beginning Tuesday evening and lasting through Wednesday and Thursday. Professors Gale, Ward, Kedzie, Shelton and Whitman are announced for addresses before the Institute, while some speakers from abroad are confidently expected. No doubt the Institute will be a profitable and entertaining affair.

We had the pleasure of a visit this week from a joint committee of the Senate and House, consisting of Senators St. Clair and Bainum, and Representatives Arnold, Hubbard and Root. They made a thorough inspection of every department, visiting each recitation room and workshop, the farm, nursery, and old buildings. All the financial departments of the College were fully examined, and the mode of buying school bonds, keeping accounts, etc., was carefully inquired into. The committee did as much work in the time allowed as any gentlemen could, and we were glad to be so inspected. Don't know their opinion about things; will get it in their report; but they didn't look lugubrious.

Some changes have been made in the offices on the telegraph line this term. Below we give offices and office calls:

I. K. Perry.....	PR.
G. C. Wilder.....	BN.
Kansas Pacific Depot.....	MN.
Post Office.....	PO.
Wake.....	W.
Whitman.....	MW.
Hoyt.....	NI.
Mechanical Building.....	F.
President's house.....	A.
Huston.....	X.
Oursler.....	AR.
College Building, Superintendent's Office.....	WS.
Flack.....	N.
Platt.....	RK.
Sternberg.....	MU.
Burroughs.....	BR.
College Hill.....	Q.
Hurlburt.....	CH.
Merritt.....	M.
Gen. Davidson's.....	KD.
Fraunberg.....	D.
Wilson.....	AE.

## Lecture by Prof. Kedzie.

Prof. Kedzie, of the Agricultural College, followed Dr. Marvin in the course of lectures, given in Topeka, before the Capital Grange. The substance of the Professor's lecture is given by the Commonwealth as follows:

"The aim of the lecturer was to illustrate the relations of science to agriculture, and especially to show the advantages of experimental work, guided by the light of science with the view of development of new and useful facts in the direction of agricultural improvement. Excellence in agriculture is the result of experience. Chemistry and other sciences explain the principles which lie at the basis of experience; as they are also in many instances suggestive of methods and experiment.

The lecturer detailed the observations made by him in a visit among those institutions of Europe in which are employed the most elaborate and extended experiments, aided by the best contributions which science can afford. In Prussia, Holland, Belgium and elsewhere in Europe, the best scientific minds are employed by the government in agricultural stations, where experience is made the test of such suggestions as come from the best workers in agriculture in those countries. Modes of culture and practice are thoroughly tested. Fertilizers are subjected to analysis, and all attempts at imposition on the part of manufacturers and venders wholly prevented.

Our agriculture demands experimental stations of a different character from those established in Europe. But stations are not less needed here than there. They may be established without expense to the State. They should be under the guidance of the State, but not necessarily at the cost of the State.

The lecturer stated that he, but not he alone, had given much thought to the subject of the establishment of experimental stations in this country. Those who were engaged in digesting plans for the establishment of such stations would, at no distant day, be able to demonstrate their utility. Already the work of getting the experience of a large number of the best agricultural workers in this State was being well organized at the Kansas State Agricultural College."—Lawrence Journal.

## Students' Column.

Answer to Enigma No. 1: Solomon.

### ENIGMA. No. 2.

My first is in gold, but not in silver;  
My second is in column, but not in pillar;  
My third is in lion, but not in deer;  
My fourth is in gin, but not in beer;  
My fifth is in bear, and also in beaver;  
My sixth is in tin, but not in lead;  
My seventh is in white, but not in red;  
The whole is the name of ancient warrior.

The Alpha Beta Society met on the 28th. The room was full of members and visitors. Extemporaneous speaking was very interesting and participated in by many. Under miscellaneous business there was a motion passed to allow the mover of the constitutional amendment question to withdraw his motion. Five persons were admitted and were duly initiated as members of the Society. Mr. Grover read a very interesting essay on "Progress." Mr. Sikes delivered a good declamation. The report of critics was listened to and the society adjourned.

## Special Notices.

Ed. Hunting can accommodate one more boarder.

School Bonds wanted. See advertisement in another column.

A good Charter Oak cook stove and utensils for sale, or to trade, cheap. Inquire of R. E. Lofinck.

Mrs. M. H. Jaquith has one room left and is thereby enabled to accommodate two more boarders.

A few students can rent rooms in the old College building at low rates. Apply to Major N. A. Adams, Secretary.

PEAR TREES.—If you want one-year-old Kansas grown pear trees, by the hundred or thousand on cash terms, address E. Gale, Sup't Horticultural Department.

**Alpha Beta Literary Society.**—Organized, October 17, 1868; chartered, December 26, 1870. The Society holds its sessions, in the College building, every Friday afternoon at two o'clock. Both ladies and gentlemen admitted. Visitors always welcome. A. A. STEWART, President. MISS MELVA SIKES, Secretary.

**SCHOOL DISTRICT BONDS.**—Several thousand dollars in School District Bonds wanted Feb. 1st, for which the highest prices will be paid. Those direct from District Boards will always have the preference. In all cases, copies of all papers relating to the issue of the bonds must be forwarded, duly certified to by the district clerk. Blank bonds filled out ready for signature when desired. For prices and blanks, address

E. GALE, Loan Commissioner,  
Manhattan, Kan.

**Dr. Patee.**

20-1f

**H. S. Roberts, M. D.**—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets.

16

**Physician and Surgeon.**—L. J. Lyman, M. D. Prompt attention given to calls, day or night. Office and residence No. 27, Poyntz Avenue, Manhattan.

37-3m

**Bookseller and Stationer.**—S. M. Fox, dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127, Poyntz Avenue, Manhattan.

37-3m

**Clothier.**—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A winter stock just received. Opposite post-office, Manhattan.

37-3m

**Mechanical Department.**—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing, Painting. The Department is well equipped with tools and machines for the student's use.

**Webster Society** of the Kansas State Agricultural College. Organized, October 12th, 1868; chartered, January, 1871. Motto: "Labor Omnia Vincit." Meets Saturday evening each week. A. R. OURSLER, President. WEBSTER HARMON, Secretary.

**Telegraphy.**—Four miles of line, twenty-five line instruments, and daily instruction and drill, by an experienced operator, in sending, receiving, office accounts, reports, and telegraphic book-keeping. No charge, except for blanks; say \$3 per Term. Special course of lectures by Prof. Kedzie on electricity, battery, etc.

**English Language.**—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

**The College Farm** keeps on hand and usually for sale specimens of Shorthorn Galloway, Jersey and Devon Cattle, and Essex and Berkshire Swine. We offer for sale one yearling bull and one two-year-old Devon bull, and two Devon cows respectively three and four years old. All imported from Canada. Price, each, \$100. Address E. M. Shelton, Sup't Farm.

**Special for Woman.**—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc.

**Mathematics.**—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

**Manhattan Bank.**—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

**The Annals of Kansas.**—By Daniel W. Wilder, now ready for delivery. This book contains 691 pages. It is a Kansas Dictionary. It has double the amount of reading matter contained in Sherman's Memoirs, and three times as much as the thirteenth volume Kansas Supreme Court Reports. Price, postage prepaid, \$5.00. Orders solicited. Cash must accompany each order.

30-1f

GEO. W. MARTIN, Publisher.



[Continued from first page.]

science, viz., that a fertilizer is chiefly valuable because it directly feeds the plant; and are learning from numerous recent and carefully constructed experiments with manures, that in very many cases we cannot venture to predict what will be the influences of a given applicative, but find in practice the strangest and most discordant result, it being literally possible to show from the experience of the farm that almost every fertilizer in use has in some instances been found beneficial to every cultivated crop, and in other cases has been indifferent and even detrimental."

We must ever bear in mind that the problems of agriculture are peculiar ones and bear almost no analogy to those of the other arts, and for this reason, because science has done much for them, warrants us nothing for the farm.

We hear constantly the study of the sciences prescribed as a panacea for the many uncertainties and dangers that beset the farmer's pathway. Are we warranted in this? Is the expectation a just one? We shall do well to bear in mind, first, that many so-called scientific truths are mere theories, and, second, that the new discovery in science compels the reviewing of all former knowledge.

Twenty years ago, no fact in physiological science seemed more firmly fixed than the oxidation theory of the production of animal heat. It was held that the lungs were the stove of the body furnishing it heat as the stove did the room. The lungs inhale oxygen, and exhale carbonic acid. The stove takes in at the draft oxygen, and the products of combustive carbonic acid, &c., pass out at the chimney. The analogy seemed perfect, and the truth so well established that foods were arranged to accord with it. These were divided into hydro-carbons to be burned in the body, and nitrogenous or plastic elements to build up the tissues.

The scheme seemed very perfect, and we were advised, in the name of science, to consume during the winter months largely of hydro-carbons, to be burned in the interior of the body, and to avoid the same during the "heated term."

Now the doctrine is completely exploded. It was found that the lungs instead of being the hottest part of the body were in reality the coldest, and the carbonic acid was found not only in the blood vessels before reaching the lungs, but in the tissues themselves. (See Dalton's Human Physiology, IV. edition, P. 243-247.) Of course, with the downfall of the theory, the symmetrical cob-house reared upon it fell also.

Whatever unfounded claims science may make upon the practical man will react upon it and prevent its true value from being appreciated.

Thirty years ago Liebig's famous manure theory was offered the farmers as a rational explanation of a new system of agriculture proposed by him. He informs us that ammonia is of all the elements of vegetable food the most important, and that this body with the carbon which enters into the substance of plants, is chiefly derived from the air; that it is the mineral constituents of the earth which are chiefly to be regarded by the farmer as promoting the growth of his plants. Farmers were further advised that when they burned their manure piles and straw stacks, and sprinkled the few shovelfuls of ashes upon the land, as much had been accomplished towards fertilizing the

soil as when cumbrins loads of straw and manure were carted.

This theory backed by the great name of Liebig could not but have great weight with the farmers of Europe. Many acted upon the hint, though few persisted in the practice. It is the peculiarity of most false agricultural practices that their effects are not slow in showing themselves. Men who are callous at heart and obtuse in mind are often very sensitive to influences affecting their purses. The experience of practical men, and the carefully conducted experiments of Lawes & Gilbert, completely exposed the falsity of the "mineral theory." But this was not the end; such a cry arose, especially in England, from the "bitten ones," that a general re-action set in from which scientific agriculture has not yet recovered.

[Concluded next week.]

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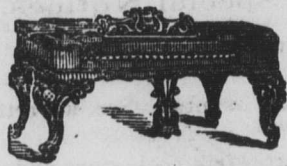
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25-6m

## KANSAS STATE AGRICULTURAL COLLEGE.

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**THIS** College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

### FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life.

The Farmer's Course is the leading one of the Institution. In the other courses, the special studies are equally determined by the requirements of the proposed vocation.

### MECHANIC'S.

To Mechanics, in addition to those studies of the Farmer's Course which are useful to the student in his proposed vocation, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

### WOMAN'S.

The course of study for woman is more practical, and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The workshops include those of the Milliner and Dress-maker, Printing, Telegraph, Scroll-Sawing, Carving, Engraving and Industrial Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

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**CALENDAR:**—Winter Term began Wednesday, January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

**J. A. Anderson, President.**



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, FEBRUARY 12, 1876.

No. 43.

## THE INDUSTRIALIST.

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Address A. A. STEWART, Manhattan, Kansas.

[From the Kansas Farmer.]

### The Ways to Agricultural Improvement.

[An abstract from an Address delivered by Prof. E. M. Shelton, of the State Agricultural College, in Representative Hall, Topeka, January 14th, 1876.]

[Concluded from last week.]

The subject of the exhaustion of soils has long been a favorite theme with speculative writers. We have been told that with every bushel of grain and every hoof that left the State our acres were robbed, and we were so much nearer the real Great American Desert which Kansas must return to if her agriculture did not experience a change. Now this is a half truth and no more, and it very nicely illustrates the difference between an agricultural and a scientific truth. It is true that with every bushel of grain that leaves our fields they are to a certain extent weakened. But the agricultural question is, will it pay to check this waste? Shall we do this by applying superphosphates or nitrates at \$75.00 per ton? The sum of every agricultural question is will it pay? How often we hear it said that such an applicative of manure will add greatly to the crop, and farmers are urged to practice in accordance with some such an understanding as this. The question to be considered by the farmer is, will this extra crop compensate for the cost of hauling the manure to the field? And thus it is with soil exhaustive. The farmer need not be informed of the fact that his fields are becoming poorer, but he will be very thankful for information that will enable him profitably to maintain their fertility. Prof. S. W. Johnson says: "The speedy and absolute exhaustion of soils once fertile that has been so much discussed by speculative writers, is found in their writings only, and does not exist in agriculture." (How Crops Feed, p. 373.)

Messrs. Lawes & Gilbert, of Rothamstead, England, have cultivated wheat for nearly thirty years in succession, upon the same land, and without the addition of a particle of manure of any kind, obtaining therefrom an average yield of 16½ bushels per acre. There are soils in Greece which have been cropped for two or three thousand years, and which now produce paying crops of barley without the addition of manure.

Instances of this kind might be multiplied almost indefinitely. We shall do well as far as we can profitably to hold our capital locked up in the soil, but an attempt to considerably increase this capital, to practice what is termed "high farming" in Kansas, must be accompanied by a proportionally increased demand for our products.

We shall do well, then, to keep in mind

that agricultural facts and scientific facts are separate and distinct matters, the one having reference to ways and means—productive, the other concerning itself with facts and their relations. Moreover, in every case the art takes precedent of the related science. "In all cases," says Whewell, in his history of the Inductive Science, "the arts are prior to the related science." Art is the parent not the progeny of science the realization of principles in practice forms part of the prelude as well as the sequel of theoretical discovery. The complaint, so often made, that science has done so little for the farm is hardly just, because the difficulties that prevent this are not temporary or arbitrary, but exist in the very nature of things. Before science can be called in to any considerable extent as a direct aid to the farmer, both science and art, and especially the latter, must attain a much greater development. The agriculture of England, and of our own eastern States, is a much more perfect and complex system than that of Kansas or Iowa. The farmers of those older States are actively concerned in guanos, superphosphates, poundrettes, marls, and the score of fertilizers which our farmers only know through the agricultural press. To understand these alone compels a comparatively intimate relation between science and the farm, and one uncalled for with us.

Of what use is there in the study of the sciences to the farmer? To answer this question properly would require more time than I have at my disposal to-night, and I shall content myself with a few suggestions. Science explains very many of the rules and practices of the farm. Thus, farmers have long since learned as a fact of experience that the application of a single bushel of gypsum to each acre of ground, gives as good results as where five times this amount is applied. Why this is so, the farmer could never explain; but the chemist tells him that gypsum is soluble in nearly five parts of water, and consequently where a large amount is spread upon the land there is not sufficient rain-fall to dissolve it.

Moreover, the study of the sciences acquaints the student with the nature of common things, which as a farmer he will have to deal with practically; these studies strengthen the observing powers and give a discipline peculiarly adapted to his wants as an experimenter.

Prof. David Low, of Edinburg, says: "Agriculture involves a species of knowledge peculiar to itself. The business of the laboratory is distinct from that of the fields; and the most perfect knowledge of the one will not give that required by the other. It is a mixing of subjects to confound the disquisitions of the chemist with the practice of the farmer. It is absurd to require a farmer to farm on a system of chemical experiments. A farmer cannot farm aright on a system of experiments of any kind. He must farm on a basis of experience already acquired; and experiments must be the exception but not the rule on a well-ordered farm. In like manner the vegetable physiologist may per-

sue his own interesting inquiries as a branch of science, but he should be careful how he counsels the farmer to farm upon a system of theories of vegetation, however well established they may seem. Such theories may be of high interest in themselves, and yet of little value in the practice of the farmer. There may be more opinions formed in the laboratory and the closet, without any knowledge of the business of the fields."

This art of yours and mine, my friends, is as old as the human race; it is older than science or philosophy; aye, it is older than religion itself; and so long has the very life of nations hung upon the successful practice of agriculture, that it is safe to presume that it will never be revolutionized or materially changed. Least of all may we expect this from the reveries and speculations of men whose hands are unstained of labor. We must ever bear in mind that agriculture is not a science but an empirical art, and it is idle to disregard experience in an art that is founded upon it. We often hear the farmer termed obstinate and ignorant, because he will not act upon new opinions and abandon the only track which he can follow with safety, but the obstinacy is generally a necessary adherence to what cannot be prudently departed from, and the ignorance generally lies with the instructor who is himself destitute of the practical knowledge which can enable him to determine whether and under what conditions his principles can be applied.

With this, I leave the matter with you. I only ask you to consider whether in planning the education of the farmer for the farm, you can afford to ignore entirely or even in good part the teachings of practice and experience thousands of years old, for the theories and speculations of yesterday. Did you ever think that in studying exclusively the sciences related to agriculture and the mechanic arts, you omit entirely all considerations of the improved breeds of domestic animals, of rotation of crops, except a few vague theories, of farm buildings, the application of fertilizers, and, in short, the hundred matters that are vital to agriculture. Need I say that the study of such a way to improvement in agriculture would be a peculiar one, and of very doubtful productiveness.

"There are more things in heaven and earth Horatio, than are dreamt of in your philosophy." There are a hundred facts in this art of agriculture which are standing puzzles to the philosophers, but which every farmer understands, with a farmer's understanding, to his entire satisfaction. He gets this knowledge not through any process of induction or by any of the logical formula, but through that more delicate nervous system which has its seat and center in men's pockets. But aside from the actual value of these practical studies to the farmer, they have another and important worth. Statistics show conclusively that the students of scientific colleges almost never return to the farm. President Abbott, of Michigan, in a recent address, says: "Of the 5,000 odd

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, FEBRUARY 12, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## A Cute Way of Defrauding Farmers of a Practical Education.

Congress gave the University an endowment for the education of the professional classes; and, after so doing, gave twice as large an endowment to the Agricultural College for the education of the farmer, mechanic and others of the industrial classes. Had it intended that only the professional classes should be educated, it would not have made two separate endowments; it would at once and squarely have given both to the University. However wide-spread may be the aristocratic notion that only professional men are entitled to an education at the public expense, Congress evidently entertained an exactly opposite notion. It not only had the right, but, also, it had the full purpose, to provide for the teaching of knowledge directly valuable to the farmer, as it had the right to provide a professional education. If it is just that the future lawyer should receive University instruction at the hand of the State, Congress evidently deemed it equally just and more important that the laboring classes should receive an industrial education at the hand of the State.

And, in so thinking, that body only expressed the will of the people. The day has gone by when a laboring man must necessarily be an ignorant man. He who plows has as great a claim on the State for that power which comes from the possession of practical knowledge, as has he who sits in an office for the power which "general" knowledge gives.

The Kansas Agricultural College is successfully furnishing a practical education—one which has a cash value to the farmer or mechanic. Its course of instruction embraces the applied sciences, as distinct from the abstract sciences, and is shaped for the direct benefit of the farmer. In addition, it gives drill in the manual operations. It is recognized from Maine to California as the most practical of all the agricultural colleges in the United States, and, therefore, as surest of success.

Now, just because of this practicalness, just because that it differs from an ordinary professional college, professional gentlemen are inclined to rise, in owlish solemnity, and hoot. Practical men are satisfied with it. The farmers and mechanics who have visited it approve of its aims and methods. Whatever may be its imperfections, they see that it is running on the right course. Its increasing popularity with boys and girls who wish an education out of which they can make a living, is another proof of the same fact. And this is just what is the matter.

It is drawing too many students; its education is too valuable; the classics are not in so great a demand as formerly. Hence, if it can't be closed up, it must be throttled. If either of these results can be effected, the Kansas farmer will be defrauded of a practical education. The plan is cute, but most ethereally thin!

## The Same Old Gobble.

A bill has been introduced to consolidate the Agricultural College with the University. Many of the friends of the latter institution will regret the revival of this attempted fraud; and some of them will, we doubt not, earnestly oppose it. But as the University is to reap the benefit of this movement, if successful, every body will of course and rightfully hold it responsible therefor.

The Agricultural College, through the wisdom of its former management, has an annual income of \$19,000, in the shape of interest on the principal obtained by the sale of a part of its land endowment. The University is wholly dependent on the State, with the exception of the small revenue from contingent fees and the \$10,000 given by Amos Lawrence. Hence, zealous citizens of Lawrence desire to gobble the income granted by Congress for the education of the industrial classes, and use it in the support of an institution endowed by Congress for the education of the professional classes. They think it would be a good thing for Lawrence. The fact that every institution in the United States which has attempted to educate lawyers and farmers together has been and is a complete failure so far as the farmer is concerned, makes no difference to them. What they want is this income, and if Kansas farmers are to suffer in consequence, that is their own lookout.

We have no war to make on the University, or on Lawrence, so long as it attends to its own legitimate business; but we don't propose to submit to this attempt to cheat the industrial classes of Kansas by palming off on students who want an education valuable to a farmer, the classical article supposed to be valuable to the professional man, and which is relatively valueless to the industrialist—especially when it is for the benefit of Lawrence house-keepers, merchants or politicians.

Farmers, even if they are grimed with dust, and mechanics, even if they are greasy, have just as much right to the advantages of an education out of which they can make money, as has Charles Augustus a right to an education out of which he can't make a living. The working classes of Kansas are rapidly learning that this Institution is squarely conducted for their benefit; and they may slightly object to this attempt to gobble the only school they have in the State. Besides, not to put too fine a point on it, there are other portions of Kansas in which people live than Lawrence.

## The Reason Why.

Real farmers do not plow from dawn to dark, swelter in the harvest field, or shiver in the corral, just for the fun of the thing. They do not toil in order that the sweat may trickle to the earth, but in order that they and theirs may eat the bread which can only be earned by hard labor that brings sweat. Neither working nor sweating is the chief end of farming: profit is. Nor is a knowledge of the sciences which relate to agriculture the chief end of farming: this knowledge, like work and wagons, is only a necessary means to be used in gaining the real end. The sciences may be taught in either of two ways: First, as pure sciences; second, as practically useful to the farmer. In the former case, the student will become a scientist; in the latter, a capable farmer. And often there is as much difference between the two men as there is between a law library and a successful lawyer. Hence, even those sciences which relate most directly to agriculture must be presented to the student with controlling reference to the use he will make of them. So widely different is this use from that which the "man of science" makes that, unless they be so taught, nine graduates will become professors of a given science where one becomes an actual farmer. The real experience of those colleges in which these are taught as pure sciences, and to which there is merely an agricultural attachment, will corroborate this statement!

And, were there no other objection to the mooted proposition of increasing the endowment of the University of Kansas by removing this College to Lawrence, the above would be insuperable. Desirable as it undoubtedly is that the State institution which is expressly designed to educate lawyers, doctors, preachers and professors, should be liberally supported, yet, because of the difference between the uses which the industrial and professional classes make of knowledge; and, therefore, because of the difference which there must be in teaching the same science to the one or the other; the mooted consolidation would inevitably be death to the practical education of farmers. Whether the professional classes of Kansas should be educated by the absorption of an endowment expressly made by Congress for the education of the industrial classes of Kansas, is a question in the decision of which the farmers of Kansas would be very apt to take part, either directly, or, if accomplished, in affecting the political welfare of the accomplisners.

We are curious to see how strong the "consolidation" influence will prove to have been on the Ways and Means Committee, when that body reports. The University asked for \$53,000 and we for \$33,000. If it receives a healthy appropriation, say \$20,000 or \$30,000; and the shops and appliances needed for industrial education are denied us—only such articles being granted as would be useful in professional education—we shall have our notion about things.



# THE INDUSTRIALIST.

SATURDAY, FEBRUARY 12, 1876.

## WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, February 9th, 1876.

DAY.	Temperat'e			Bar'tr	Wind.		State of Weather
	Max.	Min.	Mean		Dir-ec-tion.	Veloc.	
Thursday....	28°	17°	20.7	30.221	N-W	15	Fair.
Friday.....	45	5	32.7	30.257	S-W	24	Clear.
Saturday....	58	30	42.7	29.889	S-W	46	Clear.
Sunday.....	53	30	39.0	30.160	N-W	10	Clear.
Monday.....	54	25	43.5	30.224	S-W	5	Cloudy
Tuesday.....	66	36	56.2	29.851	S-W	15	Cloudy
Wednesday	63	36	50.0	29.747	N-W	15	Cloudy

HARRY F. MCFARLAND,  
Serg't Signal Service.

Number of students enrolled this Term, 181.

From Mrs. J. B. Anderson, of Junction City, the Farm Department has just received a trio of magnificent Houdan fowls. Thanks, madam!

We dislike to speak of our own personal affairs, but simple justice requires the statement that we are in the doctor's hands and ordered to work as little as possible. Correspondents and others will please excuse seeming neglect.

Prof. Wm. K. Kedzie has gone East for a couple of weeks, on account of his health. His brother, Prof. Robert Kedzie, takes his place, and is heartily welcomed by his many old friends. The latter has been taking a special course in chemistry at Yale College since his departure last summer.

The Farm Department proposes to carry on a series of experiments the coming season, which will be of great value to our farmers. Very recently the wheat field facing the city has been platted with a view to this. It is proposed to alternate plats which have received no application with plats which have been top-dressed with manure and plaster. Messrs. J. V. Coon & Co. have generously donated plaster of their own manufacture for this purpose.

We notice that some of the students are exceedingly busy in preparation for the entertainment on Washington's birthday. The programme promises to be an interesting one,—the drama Wm. Tell, songs and choruses, in costume, music by the string band, &c. We hope none will fail to attend, and that a respectable sum may be realized from the proceeds. Let Manhattan and her College send a substantial greeting to the Preservers of the "Home" of the "Father of his country." \*\*\*

The following items are taken from the Junction Union:

Those wishing to subscribe for a neat, spicy little paper, and which is a typographical gem, are referred to the INDUSTRIALIST, published at the Agricultural College, Manhattan. Terms 75 cents per year.

Miss Ella Gale, a student of the Agricultural College, has become quite skillful in the art of engraving. The last number of the INDUSTRIALIST contains a specimen of her work, in the way of a vine-covered cross, which is neatly executed and speaks well for her future proficiency.

The Nationalist of this week contains the following items:

Our "weather clerk," wishing on Saturday to effect the transfer of some real estate, stirred up a little breeze of fifty-two miles an hour.

The Webster had one of its old-fashioned meetings last Saturday night. The members seemed determined to fully test the parliamentary knowledge of their president.

The INDUSTRIALIST has greatly improved the style of its advertisements and is steadily growing in favor with the people. No farmer should neglect to take it. Only 75 cts. a year.

A number of the students, wishing to demonstrate their patriotism by celebrating Washing-

ton's Birthday, are preparing to act the play of "William Tell," on the evening of the 22nd.

The location of the Agricultural College will be a great help to our stock men. The fact is becoming known abroad that it aims to raise the best of the varieties it keeps, but as its herds are small it cannot supply the demand, and many who have come to purchase from the College are necessarily sent to other parties. One man is said to have sold over \$200 worth of pigs alone to parties who came to buy from the College but could not be supplied.

The demand for College stock will increase from year to year, and our stock men can count on a ready sale for all the really first-class animals they can raise.

## Students' Column.

Answer to Enigma No. 2: Goliath.

### ENIGMA. No. 3.

My first is in rill, but not in lake;  
My second is in worm, but not in snake;  
My third is in sake, but not in towel;  
My fourth is in trowel, but not in owl;  
My fifth is in band, but not in tan;  
My sixth is in run, but not in ran;  
My seventh is in ding, but not in ring;  
The whole is the name of a handsome thing.

The Webster Society convened as usual last Saturday night. After roll call the debate came off, which was much enjoyed by all present; decision in favor of the affirmative. This debate showed improvement in some of the participants. The change in the manner of speaking and the choice of language showed much advancement has taken place. A written debate was then read which caused much amusement. Extemporaneous speaking passed off with the usual vigor. Considerable excitement prevailed owing to an appeal from the president's decision, but the persons appealing were not successful. The following question will be debated next Saturday evening: "Resolved, That thinking men have done more for the world than men of action." We invite all to visit us.

REPORTER.

The Alpha Beta Society, on the 4th inst., was well attended, as usual. A feeling of lassitude seemed to pervade the society, owing no doubt to the fact that the excitement over the amendment question had subsided.

During extemporaneous speaking the society was pleased to hear from Mr. S. C. Shuemaker, who has been for some time a member, and had just returned from the "rural districts." He expressed himself highly pleased with the progress of the society and will be, no doubt, as heretofore, a weighty member.

The Gleaner, edited this week by Mr. C. M. Grover and Miss Minnie Whitman, reflected credit on all concerned. The rapidly increasing popularity of the Gleaner, and the fact that many contributions were crowded out simply because there were too many for one edition, prove conclusively, we think, that a paper in a literary society can be made a success.

REPORTER.

THE Legislature ordered that the Agricultural College should open its doors to both sexes. It is responsible for the presence of girls in the Agricultural College. We can't educate a woman to be a farmer; but we can give her such an education as will be useful to her as a woman who may have to earn her own living. We are doing it. And it is for this reason that Dress-making, Millinery, Telegraphy, Printing, Scroll-sawing, Carving, Engraving and Music are taught. We ought to be furnished with the facilities for teaching Cooking and Butter-making. Gentlemen who laugh at the presence of these departments in an Agricultural College had better read the organic act and the State law. It is all very well to sneer at practical education for women, but women who have to work have some claims on the State and humanity which the working classes at least are disposed to maintain.

**SCHOOL DISTRICT BONDS.**—Several thousand dollars in School District Bonds wanted Feb. 1st, for which the highest prices will be paid. Those direct from District Boards will always have the preference. In all cases, copies of all papers relating to the issue of the bonds must be forwarded, duly certified to by the district clerk. Blank bonds filled out ready for signature when desired. For prices and blanks, address

E. GALE, Loan Commissioner,  
Manhattan, Kan.

**Dr. Patee.**

20-1f

**H. S. Roberts, M. D.**—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets.

16

**Physician and Surgeon.**—L. J. Lyman, M. D. Prompt attention given to calls, day or night. Office and residence No. 27, Poyntz Avenue, Manhattan.

37-3m

**Bookseller and Stationer.**—S. M. Fox, dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127, Poyntz Avenue, Manhattan.

37-3m

**Clothier.**—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A winter stock just received. Opposite post-office, Manhattan.

37-3m

**Mechanical Department.**—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing, Painting. The Department is well equipped with tools and machines for the student's use.

**Webster Society** of the Kansas State Agricultural College. Organized, October 12th, 1868; chartered, January, 1871. Motto: "Labor Omnia Vincit." Meets Saturday evening each week.

A. R. OURSLER, President.

WEBSTER HARMON, Secretary.

**Alpha Beta Literary Society.**—Organized, October 17, 1868; chartered, December 26, 1870. The Society holds its sessions, in the College building, every Friday afternoon at two o'clock. Both ladies and gentlemen admitted. Visitors always welcome. A. A. STEWART, President.

MISS MELVA SIKES, Secretary.

**Habits of Plants.**—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

**Manhattan Bank.**—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

**The Annals of Kansas.**—By Daniel W. Wilder, now ready for delivery. This book contains 691 pages. It is a Kansas Dictionary. It has double the amount of reading matter contained in Sherman's Memoirs, and three times as much as the thirteenth volume Kansas Supreme Court Reports. Price, postage prepaid, \$5.00. Orders solicited. Cash must accompany each order.

30-1f GEO. W. MARTIN, Publisher.

**Farming for Profit!**—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings. Apparatus illustrating the course in Practical Agriculture consists of a farm of one hundred and eighty-five acres, well provided with the modern improvements in implements and machinery. A fine herd of Shorthorn, Devon, Jersey and Galloway cattle; and Berkshire and Essex pigs.

**Chemistry and Physics.**—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography, Household Chemistry. Special course in Chemistry for Post-Graduates. The Laboratories are fully furnished with the best philosophical apparatus and the largest assortment of chemical apparatus and reagents west of the Alleghanies, all of which is for the use of the students.



[Concluded from first page.]

graduates of Yale, Harvard, Dartmouth and Wesley Universities, less than one and a half per cent are farmers."

It must be borne in mind that while these institutions have classical departments they are nearly all especially strong in the sciences. You might think it would be different in the West, yet the same state of things exists here also. A late catalogue of the Indiana State University gives the occupation of 107 graduates; of these 107, only three are farmers. Ripon College, in Wisconsin, publishes a list of its graduates from 1867 to 1874, nor one of these graduates for these eight years is a farmer. According to the catalogue of Oberlin College for 1870, of the 484 male graduates between 1837 and 1869, 16 only had become farmers."

In bright and shining contrast to these colleges stands the Michigan State Agricultural College. This institution devotes itself especially to the teaching of practical agriculture and horticulture, and of all its graduates since 1855 over 50 per cent are farmers, horticulturists and nurserymen. This is not a light matter and one that can pass unchallenged. There are at the present time in the United States 6,000,000 persons engaged in agriculture. The census gives 41,106 lawyers. And yet, says Prof. Perry, of Williams College, I can point out 100 of these lawyers who have exerted more political influence in the State and Nation than all the 6,000,000 farmers have done. Need we be surprised at this. When our sons and daughters are educated only to leave the farm, agriculture does indeed seem what its enemies have so often called it, the refuge of mediocrity and downright ignorance. We must awaken to these facts before our awakening comes too late, before our colleges, academies, and schools are all given over to interests antagonistic, perhaps, but certainly without direct advantage, to the farmer. "Paul may plant and Apollo water;" our Granges may "resolve," and societies may "report," but if the avenues of education all lead away from the farm then our methods of improvement will be vain and worse than vain.

When we consider the immensity of this "landed interest," and that other fact that trades, professions and callings, petty and insignificant by comparison, are liberally provided with special facilities, with trained teachers, with laboratories and workshops, we see something of the justice of the farmer's demands.

Practice with science, but practice first! Above all, in this education for the farm no less than in the work of the farm, let us not forget that agricultural truth and scientific truth have no necessary connection, and may our aim be an education such as shall make good citizens, intelligent men and better farmers.

**A Thorough and Direct Education,** at the Kansas State Agricultural College, for the Farm, Orchard, Shop and Store. Tuition Absolutely Free! The winter term began Wednesday, Jan. 5, and closes Wednesday, May 24, 1876.

**Gardening for Profit!**—Instruction and Drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening. Kansas Forest Culture a specialty. Seventy acres devoted to experimental apple, pear and peach Orchards, Vineyards, Nursery, and Gardens.

**Kansas Publishing House.**—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

**Telegraphy.**—Four miles of line, twenty-five line instruments, and daily instruction and drill, by an experienced operator, in sending, receiving, office accounts, reports, and telegraphic book-keeping. No charge, except for blanks; say \$3 per Term. Special course of lectures by Prof. Kedzie on electricity, battery, etc.

**English Language.**—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

**The College Farm** keeps on hand and usually for sale specimens of Shorthorn Galloway, Jersey and Devon Cattle, and Essex and Berkshire Swine. We offer for sale one yearling bull and one two-year-old Devon bull, and two Devon cows respectively three and four years old. All imported from Canada. Price, each, \$100. Address E. M. Shelton, Sup't Farm.

**Special for Woman.**—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc.

**Mathematics.**—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

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**THE PRINTING DEPARTMENT**

is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer.

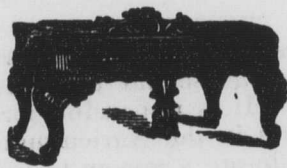
Besides regular class instruction in printing, the weekly publication of the Industrialist by the Department furnishes advanced students the requisite drill in newspaper work.

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**Matchless Burdett Organs.**

Our Pianos and Organs are recommended by the Profession generally to be the best that American skill has yet produced, and we guarantee that the price will be as low as any one can possibly ask. We are now selling full seven-octave Pianos for \$275, cash. Correspondence solicited, and catalogues mailed.

25-6m

## KANSAS STATE AGRICULTURAL COLLEGE.

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MRS. M. E. CRIPPS, Sup't Sewing Dep't.  
A. A. STEWART, Sup't Printing Department.  
W. C. STEWART, Sup't Telegraph Department.  
MRS. J. S. WARD, Teacher of German and French.  
MRS. H. V. WERDEN, Teacher of Inst'm'n'l Music.

**THIS** College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

### FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life.

The Farmer's Course is the leading one of the Institution. In the other courses, the special studies are equally determined by the requirements of the proposed vocation.

### MECHANIC'S.

To Mechanics, in addition to those studies of the Farmer's Course which are useful to the student in his proposed vocation, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

### WOMAN'S.

The course of study for woman is more practical, and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The workshops include those of the Milliner and Dress-maker, Printing, Telegraph, Scroll-Sawing, Carving, Engraving and Industrial Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

**TUITION ABSOLUTELY FREE!**

No contingent fees, except for use of pianos and organs. Boarding ranges from \$2.75 to \$4.00 per week.

**CALENDAR:**—Winter Term began Wednesday, January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

J. A. Anderson, President.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

Vol. 1.

MANHATTAN, KANSAS, SATURDAY, FEBRUARY 19, 1876.

No. 44.

## THE INDUSTRIALIST.

Published every Saturday by the  
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### Regent's Report.

To his Excellency Thomas A. Osborn, Governor of the State of Kansas:

DEAR SIR: The Regents of the Kansas State Agricultural College respectfully submit the following report and accompanying documents for the fiscal year ending November 30, 1875.

#### STUDENTS.

Two hundred and thirty-seven (237) students have been enrolled during the calendar year 1875, being thirty more than were received in 1874, a gain of thirteen per cent. Of these, one hundred and fifty-four were males, and eighty-three, or thirty-five per cent, were females. Forty-eight counties or States were represented.

#### FINANCES.

The appropriation made by the last Legislature, of \$6,175.24, to pay College warrants falling due in 1875, has been expended as directed. The amount of these greenbacks maturing in 1876, and to be provided for by the Legislature, is \$6,620.56. A full account of this liability will be found in the annual report of the Commissioners of Public Institutions for 1873. The indebtedness was contracted in 1870; and for it the present board is in no wise responsible, neither is the institution able to meet it.

With the appropriation of \$7,500 a mechanical building has been erected, 38x102, two stories, stone range work; and the barn converted into recitation rooms. In order to bring the contract within the appropriation it was found necessary to dispense with the floor of the carpenter shop and the third coats of plastering and paint in both buildings. All bills of every description against this fund, including the very reasonable fee of the architect, have been paid, and the buildings have been in daily use since August. The State has never obtained more room or better work for the same sum, and the institution has thus been furnished with about 14,000 square feet of floor space at fifty cents per foot.

#### WANTS.

The relation which the Agricultural College bears to the State is radically different from that of its other educational institutions in two particulars. First, this College is expressly created to give an "industrial" as distinct from a "professional" education, while they are designed for the training of the professional classes. For every three persons engaged in professional vocations, Kansas has ninety-seven persons engaged in agricultural, mechanical or other industrial pursuits. And upon the principle of ensuring the greatest good to

the greatest number, as well as upon the principle that the maternal prosperity of the commonwealth is augmented by the practical education of the producers and artisans, the State's industrial college has stronger claims for effective aid and support than any of its "professional" institutions.

Second, the State, by its statutory acceptance of the Congressional endowment, worth half a million of dollars, voluntarily became the trustee of the United States in the management of this fund for the purpose and under the conditions prescribed by Congress. So that, in addition to considerations of the welfare of its own citizens, the State is bound by all those obligations which impel every fiscal agent to execute the conditions stipulated by the party who gave the endowment and appointed the agent. Among other conditions, the State expressly agreed to furnish needed buildings, and it tacitly agreed to provide such facilities and equipment as in its judgment are essential in giving a practical education. So far as other institutions are concerned, we suppose that the State, in these respects, is only influenced by a proper regard for the welfare of its own citizens; it may or may not furnish buildings and support, as it deems best. But so far as the Agricultural College is concerned, the State is additionally bound by the conditions of the Congressional act, until it shall have returned to the United States the original endowment.

The income from the invested principal, obtained by the sale of lands, is sufficient to pay the salaries of the faculty, fuel, light, janitor's service, etc.; but it is not sufficient to defray the absolutely necessary expenses of the several departments, much less to equip them. In addition to suitable workshops, an industrial college must have tools and material, by the use of which a student can acquire manual skill, that would be wholly out of place in a University or Normal School. To suppose that it only needs a faculty, and that its full work will be done when professors' salaries are paid, is quite as great a mistake as it would be to suppose that when the State had furnished and paid the officers and guards at the Penitentiary, no further appropriation was needed for the maintenance of the prisoners. And the fact that the Agricultural College is the only one of the State institutions which can pay its faculty from its own income, so far from being a reason why the State should withhold aid, is rather a reason why it should give the several departments such facilities and equipments as would put them squarely on their feet, and thus enable the institution to speedily become self-supporting in all respects. But until this be done the Regents, who are the State's agents, must, in the faithful discharge of their duties, annually apply for essential aid.

We said last year, as we have this, that our income was sufficient to meet the expenses of instruction, and we asked for appropriations for the current expenses and equipment of departments. Unlike its predecessor, the last Legislature denied the request. As a consequence, from buying

fuel to building fences for the protection of growing crops, we have had to pay every conceivable variety of expense; and though exercising an economy that, if continued, would kill this or any other institution, we have run three thousand dollars behind our receipts. We do not ask the State to pay this indebtedness, as, in case we cannot meet it during the coming year by collecting the four thousand dollars of delinquent interest (\$3,939.08), we will endeavor to do so from our current income. In one sense we are in debt; in another, and truer sense, we are not, because our reliable assets are greater than our liabilities. But one thing is certain: unless the State provides for the current expenses of the several industrial departments, we must either fail to do the work justly expected of us, or run in debt.

After a thorough inspection of each department, the Board unanimously adopted the following recommendation of its finance committee, for appropriations, based upon the absolute requirements of the College:

For material and equipment of Chemical Department.....	\$1,500
For Botanical, Entomological and Horticultural Departments.....	1,500
For Mathematical and English Department.....	540
For Library.....	1,000
For Agricultural Department—	
Fencing.....	900
Seeds and Experiments.....	500
Stock, live.....	1,500
For Mechanical Department.....	1,500
For Printing Department.....	500
For Telegraph Department.....	250
For Woman's Industrial Department.....	1,500
For Sidewalks in College grounds.....	1,050
For Text-books, if granted to other Institutions.....	500
For Chemical Laboratory.....	8,000
For Barn.....	4,000
For Dairy house.....	1,500
For Horticultural building.....	5,000
For Blacksmith shop.....	1,000
For finishing new College and Mechanical buildings.....	1,500
Total,	\$33,740

This estimate is not made to be "cut;" we have already reduced it as much as a regard for the vitality and efficiency of the institution would permit. These are expenditures which we, as business men, would make were we acting for ourselves instead of for the State, and we doubt not that the Legislature will readily grant so small an appropriation for the education of those of its sons and daughters who expect to make a livelihood as industrialists.

All of which is very respectfully submitted.

M. J. SALTER, Chairman.  
N. A. ADAMS, Secretary.  
JAMES ROGERS.  
B. L. KINGSBURY.  
J. H. FOLKS.  
JAS. LAWRENCE.  
JNO. A. ANDERSON.

State Agricultural College, Dec. 9, 1875.

There are 11,717 volumes in the Kansas State Library.

The sheep interest in Kansas is increasing in importance every year.

The total number of prisoners in the State penitentiary at the close of the year was 379.



# THE INDUSTRIALIST.

SATURDAY, FEBRUARY 19, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

WHILE the Report of the Superintendent of Public Instruction was on the press, as the Committees needed our Report, we paid for an extra edition which was at once laid on members' desks. This statement is made in justice to General Fraser, who had nothing to do with the matter.

UPON incorrect information we stated last week that the bill to abolish the Agricultural College gave our endowment to the University. It gives it to the common schools. As the Congressional grant was made for the maintenance of a "college" "for the benefit of the industrial classes," and as the schools are not a college, this proposed diversion of the fund would be adjudged illegal by the courts, even if the Legislature could be induced to pass the bill.

CONGRESS has prohibited any expenditure of the endowment for buildings, in the following section of the organic act: "No portion of said fund, nor the interest thereon, shall be applied, directly or indirectly, under any pretense whatever, to the purchase, erection, preservation, or repair of any building or buildings." With less than the amount of money needed to finish the University, we can put up cheap buildings, exactly suited to the wants of industrial education, that will accommodate five hundred students.

## Be Just to the Industrial Classes.

The feeling has been worked up in the last two Legislatures that "the State is too poor to build." So far as tax-payers are concerned it makes no difference whether \$1,000 be spent in buildings or in salaries. In other words, it is not what their money is spent for, but the amount expended, which affects them. And the point for the Legislature to determine, in dealing with the State's institutions, is the necessity of an expenditure.

The floor space of the Emporia building is probably as great as that of the capitol building, while the floor space of the University is between two and three times greater. All of our literary departments are crowded into a barn 42x96, two stories, divided into eleven rooms. We fancy that Representative Hall is as large as the whole of one of our floors, perhaps larger; and we know that several city school buildings have greater capacity. Besides, those buildings were planned for school purposes; this one was not. We can't crowd a class of sixty into a room that will hold only thirty; and the imperative, vital necessity of this Institution is room. Without it we can't do the

teaching necessary in giving a practical education to those who are to live by manual labor. The necessity of other institutions is for salaries, not room. Give them what they imperatively need, for they can't teach without teachers; give us what we imperatively need, for we can't teach without room to teach in. Don't be deceived by the "too-poor-to-build" cry. The point is, what does each really need? The State is not too poor to pay for essentials, whatever may be the case respecting luxuries.

## Consolidation.

The Agricultural College bill first agreed upon by the Ways and Means Committee appropriated nothing for buildings and \$4,350 for departments, "provided that the Regents shall order the discontinuance of the breeding of blooded cattle." This was tantamount to knocking the agriculture out of the Institution, and putting it in shape to be consolidated with the University. As there has for years been an effort to effect this consolidation, we felt that the above action was due to this cause. In that we may have been mistaken; and were, so far as the gentlemen of the Douglas county delegation were concerned. But whether this result came by design or by a misapprehension of the vital wants of the College, which are buildings, the effect would be the same.

The Committee very kindly gave the matter a second consideration, and at the suggestion of the Regents reduced the \$4,350 to \$2,800, and added \$1,000 for finishing present buildings, \$8,000 for Chemical laboratory and \$4,000 for Horticultural and Botanical building. These are absolutely essential for immediate use, and we do hope that the friends of the industrial classes will grant them. The appropriation for the "greenback debt" was in the first bill, and stands.

In regard to the University we wish to say that all we have ever asked is that our endowment shall be let alone and be used directly for the benefit of farmers and mechanics; and that we be furnished with buildings and appliances absolutely needed, whether they can be carted off or not. Appropriations to the College should be determined by its needs, and the ability of the State, and not by the effect they might have on the consolidation theory. We sincerely want to see the University developed to the highest point of usefulness on its line. It ought to be. But this endowment can't be taken for that purpose. The majority of its friends realize the fact. And under any and all circumstances we propose to be true to our trust, let the consequences be what they may. The sooner the friends of the University kill the consolidation-maggot which has always been in the heads of a few Lawrence gentlemen, not members of the Legislature, the better for the University and for the College.

## All About Jones.

The celebrated John Smith, famous for his common-sense, gave to the level-headed John Jones, simply and solely as trustee, \$45,000, the interest of which was to be used in the general education of such of Jones' children as wished to prepare for professional life; and, at another time, the wholly distinct sum of \$90,000, the interest of which was to be used for the special education of those of Jones' children who wished to become farmers or mechanics, or to engage in other industrial vocations. It was a generous deed on Smith's part, and a good thing for Jones' children—very good. Jones was Smith's nephew.

But Jones, like a good many other folks, got the idea into his otherwise level head, (as aforesaid,) that his farmer and mechanic boys didn't need a special training for their business, though the professional boys did; and that such items as they could pick up, in a fragmentary way, out of the instruction provided for the professionals were good enough for them—though the farmer's work is as different from the lawyer's as is plowing from speaking. So far as his girls were concerned, he thought as they hadn't anything particular to do, except to get married, they need not be taught practical knowledge, or acquire any skill by which they could earn a living. It turned out afterwards, however, that several of Jones' daughters had to support not only themselves and children but their husbands, and had to learn as women what they might easier and better have learned as girls. But that is a digression.

Now this sagacious Jones, though he was getting rich as fast as a man can, conceived the notion that he was fearfully poor. He had several irons in the fire, and forging them cost money. Once a year he cast up the expenses of his business and family, and the sight of the total always made him mad. On such occasions he properly aimed to reduce the expenditures to the lowest practicable point, knocking off superfluities; for he was too sensible to intentionally cripple his own interests or those of his children.

Of the family expenses, those for education were considerable items. Smith's \$45,000 donation for professional education yielded no income, while the \$90,000 fund for industrial education yielded \$19,000 per year. Until the revenue from these grants would pay the expenses of the distinct educations for which they were given, he had undertaken to foot the bills himself. And it was the most natural thing in the world that the notion should suggest itself that he could make money by taking the farmer-boy's interest and using it in giving the professional boy an education. The temptation was great. Other men, similarly situated, had done just this thing; but their experience had proved beyond a shadow of a



doubt that the working boys did not receive the direct benefit which Smith had stipulated that they should receive.

The fact is, the above notion has been in Jones' head a good while, and the matter is rapidly coming to a crisis. He contracted with Smith to furnish the buildings for industrial education, and they are now imperatively needed. He must either erect them, or cripple the education of his industrial boys.

The perplexed Jones is considering the matter. On the one side he says to himself: "It will be for my personal interest to take Tom's grant and use it in educating Charles Augustus, and I am very poor just now." On the other hand he says: "I am not too poor to be HONEST. That money belongs to my children and not to me. I only hold it as their guardian, and can only use it for their benefit, not mine. I have no more right, either before man or the law, to take the fund which Smith gave especially to Tom, and, leaving him unprovided for, use it on C. Augustus, than I have to use it in building railroads. If Smith had not intended to give Tom a practical education, or had intended to give him the same education he designed for C. A., he himself would have put the grants together." Being at heart an honest old party, there is but little doubt that Jones will do the square thing, especially as ninety-seven per cent of his children will follow industrial pursuits, and as their true interests are really his true interests.

Now, this Jones is an individual. As such he is amenable to law. Should he, as trustee, divert Tom's fund to any other use than that for which Smith gave it, the court would sentence him to the penitentiary. And it strikes us that the only difference between such an action by Jones, and by a State similarly acting as the trustee of the United States, is that Uncle Sam would not put the State in the penitentiary. A State is not subject to the sentence of a court. There can be no difference respecting the equity or justice of the two cases. And if we were talking about a State, we would say that it had no more right to use Tom's money, either for its own interests or for those of Charles, than has Jones; but the above is all about Jones.

#### Blooded Stock at the College Farm.

In most respects we have a right to expect of the College farm precisely what is expected of any farm tilled for profit, by men who depend upon it for the support of themselves and families. But this is not the prime object of the College farm. What the chemist's laboratory and apparatus are to the teacher of chemistry, the College farm, its implements and live stock are to the teacher of agriculture. But beyond this, the analogy between these departments will

hardly hold good. The sum of every agricultural question is profit; and the teacher of practical agriculture has to deal not with theories, or abstract truth, but with profitable methods.

Whatever may be said of the farm in general is especially true of the live stock. We have made the study of the breeding of domestic animals, and the relative values of the breeds, a leading study of the Farmer's Course, because we know that whatever system of farming our graduates may pursue, stock husbandry, in some of its forms, will take a prominent place if they are permanently successful.

In this teaching we have not been confined to mere statements. When we wish to show the resemblances and differences of Shorthorns and Devons, the College herd has been ready to speak for itself. More than this, when we tell our students of the value of stock husbandry as a part of a system of farm operations, our facts have been those furnished by the cash account and ledger.

The truth is, our stock has been a source of profit from the first day it came into possession of the College. When, as in the past season, corn and oats and barley scarcely paid for the planting, our live stock account has shown a handsome balance in its favor, in proof of which we offer the following statement:

STOCK ACCOUNT.			
Dr.		Cr.	
To cash & labor, \$1286.79		By cash.....	\$993.07
		Increase.....	426.00
		Labor.....	297.08
	\$1286.79		\$1716.15
Cash to balance, \$429.36			

The item "increase," in the above account, refers to two Jersey heifers, a Shorthorn bull and heifer, and three pairs of breeding swine of the Berkshire and Essex breeds. Whether our estimate of the value of these animals is too high or the reverse, we leave to the judgment of the readers.

Briefly, then, our stock has never been a burden to the College or the State, and, while it has been the apparatus of the Department and a constant means of instruction, its individuals have been sent to every part of the State, to the profit of the farmers and the College.—[Prof. Shelton.]

#### WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, February 16th, 1876.

DAY.	Temperat'e			Bar't'r	Wind.		State of Weather
	Max.	Min.	Mean		Dir.	Veloc.	
Thursday...	69°	42°	53.0	29.545	S-W	32	Fair.
Friday.....	54	28	43.5	30.013	S-W	5	Clear.
Saturday....	64	23	51.2	29.662	S-W	18	Clear.
Sunday.....	50	35	44.2	29.869	W	10	Cloudy
Monday.....	43	26	35.7	30.014	S-W	10	Clear.
Tuesday.....	38	15	30.0	30.073	N-E	6	Cloudy
Wednesday...	38	32	30.7	30.357	N-W	6	Clear.

HARRY F. MCFARLAND,  
Serg't Signal Service.

## THE INDUSTRIALIST.

SATURDAY, FEBRUARY 19, 1876.

Number of students enrolled this term 184.

Don't fail to attend the entertainment at Peak's Hall on the evening of Washington's birthday.

The Farm Department has shipped this week to Dr. L. Sternberg, of Ft. Harker, Kas., one Berkshire sow, price \$15.00.

Since our last report the following students have been received: Frank Hughes, Leavenworth; L. A. Harding, Riley county; Mary B. Williams, Oak Grove, Pottawatomie county.

#### Letter of Distinction.

We are indebted to Serg't Harry F. McFarland, the observer in charge of this station, for the following letter of distinction, awarded the United States Signal Service by the International Congress of Geographical Sciences, at its recent session in Paris, France:

GEOGRAPHICAL SOCIETY,  
International Congress of  
Geographical Sciences,  
PARIS, August 11, 1875.

GENERAL:—The exhibition of the "Signal Service" has seemed to the International Jury to deserve an exceptional reward. This service, so remarkably organized, has caused such progress to be made in meteorological science that the distinction provided by the regulations of the Congress would not be commensurate with it.

I have the honor, in the name of the Congress, to bring to your knowledge this high appreciation of the jury, and to you, for the Signal Service, the present "Letter of Distinction" as the award of the highest order decreed on the occasion of the Exposition.

Please to receive, General, the assurance of my high consideration.

The Vice-Admiral, Pres. of the Congress and of the Geographical Society of Paris,

DE LA RONCIERE-LE NOURY.

To ALBERT J. MYER, Chief Signal Officer,  
United States, North America.

In the honor of this distinction all of the service and its co-laborers share. The fact that the work has been so appreciated will be an incentive to the effort to carry it forward with high skill to other successes.

#### Students' Column.

Answer to Enigma No. 3: Rosebud.

The leap-year party, given last Friday evening by Miss Jennie Mails, at her home, three miles east of Manhattan, was a grand affair. The young ladies conducted the whole thing, from inviting the young gentlemen, to paying the expenses of the trip. And be it said, to their credit, everything was executed in first-class style.

The young gentlemen, upon arriving at the place designated, were ushered into the parlor, there to await the appearance of the fair ones. They waited some time, and just as they were considering several proposed tricks to be played upon their companions for the evening, lo, and behold, the ladies appeared and the would-be trick-players were the ones tricked, for the ladies had disguised themselves by masks and change of dress until it was impossible at first to tell "which from t'other." It was a complete surprise, not one of the gentlemen mistaking the reason of the ladies' delay.

The exhibition of Forepaw's elephant, "Romeo," which was supposed to be dead, and Capt. Jack and Schonchin, of the Modoc tribe, also said to have departed this life, created considerable amusement. The gentlemen were responsible, however, for these acts. Performances of this character, though greatly enjoyed, were followed by a supper which was still more enjoyed—if we are allowed to judge others by ourselves. Oysters were, to all appearances, as plentiful as in any oyster bed, and in a much more palatable condition. And the cake, we don't know whether it was gold, silver or sponge, was just—well—delicious. We will not attempt an enumeration of the other delicacies, but, our word for it, everything necessary was there. A short sojourn after this splendid repast, and the party dispersed.



## THE INDUSTRIALIST.

SATURDAY, FEBRUARY 19, 1876.

### Items of Interest.

The biggest thing on ice this year will be the price.

Winter wheat is reported good all over the State.

Kansas raised nineteen million bushels of corn last year.

Kansas has packed about 12,000 hogs so far this season.

Eight hundred bushels of beets to the acre in Reno county.

25,000 head of cattle are now grazing in Central Kansas.

Kansas has expended \$4,783,615.81 since becoming a State.

All hands think it is summer, and so it is—summer weather.

The castor bean crop of Kansas this year was worth a million dollars.

Peanuts seventy-five bushels to the acre in various parts of the State.

Wheat in Montgomery county, is from twelve to fourteen inches high.

Kansas is in her sixteenth year. Hope she'll look lovely at the Centennial.

The total rainfall in Kansas for ten months of the present year registers 24.96 inches.

Ottawa will celebrate the next Fourth of July with a cannon cast in her own foundry.

The vote of the State at the recent election was ten thousand greater than the year previous.

If we waited until it was perfectly convenient, half of the good actions of life would never be accomplished.

Plowing has continued up to this time in Central Kansas, and no wonder the immigration to Kansas this winter is larger than it has been for eight years.

It is estimated that every time a train of cars of the average length stops, it costs, in wear and tear of material and loss of power, fully 75 cents. This is what makes a conductor always look so cheerful when he hauls up at a flag-station, in the middle of a snow storm, to take on a string of onions and a man with a dead-head pass.

**A Thorough and Direct Education.** at the Kansas State Agricultural College, for the Farm, Orchard, Shop and Store. Tuition Absolutely Free! The winter term began Wednesday, Jan. 5, and closes Wednesday, May 24, 1876.

**Gardening for Profit!**—Instruction and Drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening. Kansas Forest Culture a specialty. Seventy acres devoted to experimental apple, pear and peach Orchards, Vineyards, Nursery, and Gardens.

**Kansas Publishing House.**—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

**Telegraphy.**—Four miles of line, twenty-five line instruments, and daily instruction and drill, by an experienced operator, in sending, receiving, office accounts, reports, and telegraphic book-keeping. No charge, except for blanks; say \$3 per Term. Special course of lectures by Prof. Kedzie on electricity, battery, etc.

**English Language.**—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

**Mechanical Department.**—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing, Painting. The Department is well equipped with tools and machines for the student's use.

**The College Farm** keeps on hand and usually for sale specimens of Shorthorn Galloway, Jersey and Devon Cattle, and Essex and Berkshire Swine. We offer for sale one yearling bull and one two-year-old Devon bull, and two Devon cows respectively three and four years old. All imported from Canada. Price, each, \$100. Address E. M. Shelton, Sup't Farm.

**Special for Woman.**—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc.

**Mathematics.**—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

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### FIRST-CLASS PRINTER.

The Literary Departments offer a thorough education in the construction and use of the English Language, as employed by the Proof-Reader; in Book-Keeping; and in Industrial Drawing, as the best developer of that Taste necessarily exercised by every good Job Printer.

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is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer.

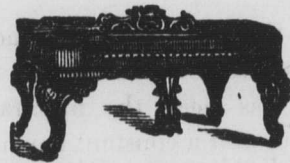
Besides regular class instruction in printing, the weekly publication of the Industrialist by the Department furnishes advanced students the requisite drill in newspaper work.

**Conover Bros.,**  
559 Main Street, Kansas City, Mo.

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Our Pianos and Organs are recommended by the Profession generally to be the best that American skill has yet produced, and we guarantee that the price will be as low as any one can possibly ask. We are now selling full seven-octave Pianos for \$275, cash. Correspondence solicited, and catalogues mailed.

25-6m

## KANSAS STATE AGRICULTURAL COLLEGE.

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**THIS** College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

### FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life.

The Farmer's Course is the leading one of the Institution. In the other courses, the special studies are equally determined by the requirements of the proposed vocation.

### MECHANIC'S.

To Mechanics, in addition to those studies of the Farmer's Course which are useful to the student in his proposed vocation, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

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The course of study for woman is more practical, and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The workshops include those of the Milliner and Dress-maker, Printing, Telegraph, Scroll-Sawing, Carving, Engraving and Industrial Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

**TUITION ABSOLUTELY FREE!**

No contingent fees, except for use of pianos and organs. Boarding ranges from \$2.75 to \$4.00 per week.

**CALENDAR:**—Winter Term began Wednesday, January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

J. A. Anderson, President.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, FEBRUARY 26, 1876.

No. 45.

## THE INDUSTRIALIST.

Published every Saturday by the

### PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application.

Address A. A. STEWART, Manhattan, Kansas.

### Report of the Committee to Visit Agricultural College.

TOPEKA, Kansas, February 11, 1876.

MR. PRESIDENT:—Your committee appointed in compliance with Senate Concurrent Resolution No. 16, authorizing a committee "to visit and report upon the present condition and past management" of the State Agricultural College, and "to report in regard to the investment of the appropriation made by the Legislature of 1875 for building purposes," beg leave to submit the following:

#### FARM DEPARTMENT.

The farm seems the most suitable place to begin an examination of an Institution whose very name, as well as curriculum, shows the dissemination of agricultural knowledge to be the leading feature of instruction. This department of the College we found under the charge of Prof. Edward M. Shelton, who, in addition to his duties as superintendent of the farm, has, through his indefatigable industry, found time during the past year to teach classes in practical agriculture and physiology, and to deliver a course of lectures in dairy practice to young ladies. Notwithstanding the fact that the farm had to contend with the severities of both drought and the ravages of the grasshoppers, which greatly reduced the profits of the farm, still this department returns over \$1,000 as profit arising from the sales and increase of stock on hand during the last year.

The experiments made with a large variety of grasses and forage plants, grains, etc., we deem of great value to the State, and we think the gratifying results justify a continuance of the experiments.

The stock is in fine condition, and your committee would recommend that a more thorough test of the different kinds of blooded stock be made.

A barn is greatly needed for the storage of grain, and the better protection of stock and implements.

#### HORTICULTURAL DEPARTMENT.

We found the Horticultural Department in a better condition than the farm. It, too, however, has suffered severely from the same calamities. Valuable fruit, ornamental and forest trees, have been thus destroyed, at a loss of thousands of dollars. Yet we have to note with pleasure the development of many valuable improvements in the propagation of the different varieties of apples, pears and the small fruits—the result, we believe, of careful and studied experiments. The experiments in this department with forest trees show conclusively, we think, that we must rely chiefly upon our native forest trees; and, recognizing the

importance of timber culture in our State, we beg leave to suggest that more attention and time be devoted to this subject.

They also greatly need new buildings and a conservatory, in order that their present plans may be successfully carried out.

#### DEPARTMENT OF BOTANY, ENTOMOLOGY AND GEOLOGY.

We found the students here, under the direction of Prof. J. S. Whitman, pursuing a systematic course of botany and the other sciences taught. They are indebted to many benevolent citizens for interesting and valuable contributions to their various cabinets. The students appeared studious and industrious, notwithstanding the many disadvantages under which they labor. The room is small, unfinished, ill-ventilated and poorly heated.

#### DEPARTMENT OF CHEMISTRY.

Under the management of the present administration, this department of the College has been considerably enlarged. Yet the rooms are unfinished, inadequate in size, and scantily supplied with apparatus and the necessary fixtures incident to a well-furnished laboratory. Three and four classes are compelled to occupy this room. The chemistry of agriculture is taught here by means of lectures and laboratory practice. Professor Kedzie, the gentleman in charge, also delivers a course of lectures in household chemistry to an interesting class of young ladies. Professor Kedzie, during his recent visit to Europe, gained much information in regard to the workings of experimental stations there, which we believe will prove of great value in his labors at the College.

A very fine collection of specimens illustrative of the mineralogical and geological resources of the State, also specimens of the soil and the water, neatly labeled and classified in cases, is to be seen in this department.

The demand for a laboratory building adapted to the wants of this department, in order that the practical science of chemistry may be correctly elucidated, seems imperative.

#### MATHEMATICAL DEPARTMENT.

Instruction in mathematics is given principally by means of lectures and illustrations. Drawing and book-keeping are also taught. In order that the higher mathematics may be successfully pursued, more and better apparatus should be supplied.

#### DEPARTMENT OF PRINTING AND TELEGRAPHY.

The classes in printing and telegraphy manifested an interest and showed a skill in their work beyond our most sanguine expectations, considering the existing disadvantages. The rooms are uncomfortable, and the supply of stock, materials and instruments, is meager indeed.

#### MECHANICAL DEPARTMENT.

We found here a perfect hive of industry. Some of the students were engaged at the bench, making articles of furniture for the

building, while others were turning. Here, too, we observed a class of girls industriously engaged in scroll-sawing. There is a great lack of tools and materials, and a blacksmith shop should be provided.

#### STATEMENT OF EXPENDITURES OF THE APPROPRIATION OF 1875.

We find the accounts of the Treasurer, Land Commissioner and Secretary of this Institution in a very satisfactory condition. Their system of keeping accounts is of the most improved style of any now in use. The appropriation made by the Legislature of 1875, for building purposes, we find to have been expended as follows:

First: In the alteration of the building known as "the barn." Floors, partitions, and stairways have been put in, and it is now used as the principal college building. It is still in an unfinished condition, and requires another coat of plaster and of paint, new base-boards, a vestibule, and out-houses.

Second: In a plain, substantial two-story building of stone, 102 feet in length by 38 feet in breadth. It, also, is unfinished—the lower story being unplastered, and having no floor. There are no base-boards in any part of this building, and but one coat of plaster and paint in the rooms of the second story. The work on the two buildings was let in the same contract, so it is impossible to tell the cost of either separately. A careful examination of the vouchers shows the following expenditures:

For stone work.....	\$2,250 00
Carpenter work and plastering.....	5,157 85
Architect's fee.....	100 00
Advertising.....	13 00
Expressage.....	50
Total.....	\$7,521 35

An additional appropriation will be required to finish the two buildings.

#### ATTENDANCE.

There are at present 181 students in attendance, forty-three per cent of whom are from Riley county, and twenty-two per cent are from the village of Manhattan. But it is to be remembered that a large part of those reported from Manhattan are of families from different parts of the State, who have a temporary residence there for the purpose of schooling their children.

#### LAND AND LOAN DEPARTMENT.

The land and loan department of the College is in good hands and well managed. The lands sold during the year 1875 only amounted to 2,080 acres, at an average price of \$6.25 per acre, making a total of \$13,000. Of this amount \$1,625 was in cash, and the balance (\$11,375) in secured notes—leaving now in the hands of the Land Commissioner, unsold, 32,505 acres. The receipts of the Board for the year 1875, for interest on the endowment fund, was nearly \$18,000. The amount of funds invested is \$225,691, all of which we believe is amply secured. The delinquent payments amount to \$5,491.99.

When these lands were sold it was supposed that they were not taxable until the purchaser had received a title, but by a

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, FEBRUARY 26, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## An Act Making Appropriations for the State Agricultural College.

The following is the bill reported by the Ways and Means Committee and now before the House:

Be it enacted by the Legislature of the State of Kansas:

SEC. 1. The following sums are hereby appropriated out of any money in the treasury not otherwise appropriated, to be used under the direction of the Board of Regents of the State Agricultural College:

For material and equipment of chemical department.....	\$ 500 00
For fencing.....	500 00
For seeds and experiments.....	200 00
For printing department.....	200 00
For woman's industrial department.....	500 00
For sidewalks in college grounds.....	500 00
For two privies.....	300 00
For moving blacksmith shop.....	100 00
For the payment of college warrants issued in the year 1870, and coming due during the year 1876, the sum of six thousand six hundred and twenty dollars and fifty-six cents, (or so much thereof as may be necessary,).....	6,620 56
For finishing college and mechanical building.....	1,000 00
For laboratory building.....	8,000 00
For horticultural and botanical building,	4,000 00

SEC. 2. The Auditor of State is hereby authorized to draw his warrants upon the Treasurer of the State for the purposes and amounts specified in the first section of this act.

SEC. 3. This act shall take effect and be in force from and after its publication in the Weekly Commonwealth.

### Economy.

The endowment of the Agricultural College is too valuable, and the income already derived from it too great, to permit any legislator conversant with the facts to harbor the thought of throwing it away. To say nothing of justice in the case, the interests of the people require that it should be used for the purpose for which the grant was made by the United States. The question then arises how can the sums which are annually applied for by the State's agents who have charge of this Institution, be most wisely and effectively reduced? There are two ways:

1. To make the appropriations of each year as small as possible.

2. To make the Institution self-supporting.

Its present income is sufficient to pay the salaries of instructors and the ordinary contingent expenses, such as light, fuel, catalogues, etc. But, by the prohibition of Congress and the agreement of the State, no part of the fund can be used in the erection of buildings. And it is not sufficient to furnish the essentially necessary equipment of these departments.

The effect of the first method is as clear

as noon-day. If there be doled out each year just enough to keep the departments as they are, the State's agents must, in the merest discharge of their duty, apply each succeeding year for further aid. Whenever, on the other hand, the State will provide the few cheap buildings imperatively needed, and the relatively small sum which would make the several departments self-supporting, no further applications would be made. So that the whole question narrows itself simply to this: Which of the two methods is most economical? All will agree that the latter is the wiser course both for the tax-payer and for the industrial classes. The proposition is too plain to need discussion.

Old members occasionally suggest that we informed them last year that, if the appropriation then asked were granted, the College could soon take care of itself. We repeat it now, and remind them that of the \$25,000 then asked for buildings, only \$7,500 were appropriated, and not a cent for anything else, except an old debt which did the Institution no good. Give us buildings and the equipment needed to make the departments self-supporting.

### Taxation of College Lands.

EDITOR INDUSTRIALIST:—The subject of taxation of the lands granted to the State of Kansas for the endowment of the Agricultural College, is one that indirectly interests every citizen of the State, and directly interests and affects the purchasers of the lands.

There are two hundred and two persons who have bought College lands of the State agents for the sale thereof; and all these have purchased under the representation and with the belief that the lands were not subject to taxation during the seven years which elapsed while they were making their annual payments and the State still held the title. By authority of Attorney General Geo. H. Hoyt, Mr. Goodnow advertised these lands as free from taxes until patents were due. On similar authority, that of Attorney General A. L. Williams, the present agent has advertised and sold the lands under the representation that no taxes could be legally levied and collected until patents were issued by the State. A larger price was generally obtained for the lands because of this supposed exemption from taxation, and thus the College endowment was materially increased. In the majority of cases the exemption from taxation was the argument that convinced the purchaser and induced him to invest.

The Supreme Court of Kansas, in September last, made an unlooked-for interpretation of the law, and decided that, as the lands were not "especially" exempted by the statutes, they became taxable as soon as

by purchase and payment of one-eighth of the price any individual obtained an equitable interest in the lands. There is, I believe, nothing in the Constitution of the State to prevent the exemption of these lands from taxation if only a suitable law were in the statute books. Constitution, Art. XI, Sec. 1, provides that all property used exclusively for State, county, municipal, literary, educational, scientific, etc., etc., purposes, shall be exempted from taxation, but it does not say that property not used exclusively for these purposes shall not be exempted from taxation.

By the Constitution, as quoted above, the property described therein would be exempt from taxation no matter what law might be made to the contrary. On the other hand, a law may be passed to exempt certain property from taxation, not already exempted by the Constitution, and if the law does not conflict with constitutional provisions, it would be of full force, and unquestionable in its operation.

By the decision of the Supreme Court referred to above, the property of the State, the legal interest of the State in the College lands, is involved to the extent of fully \$60,000 directly, and \$45,000 indirectly; and there will grow out of the complications arising a great expense to the State, in the way of suits that will be instituted to recover money paid on these lands by purchasers who bought them under the representation that they were not taxable.

There is a bill now before the Legislature which provides for the exemption of Agricultural College Lands from taxation, and the relief of purchasers of the same. The bill simply carries out the intent of the law as it was supposed to be, and the representations of the agents of the State who acted under the advice of the highest authority accessible in selling the lands as free from taxation. The bill ought to pass. It would remove a great many complications that otherwise cannot be avoided. It would keep the pledge of the State, made by her agents, with purchasers in regard to the exemption of the land from tax. It would add about \$45,000 to the College endowment by the increased value of the unsold lands. It would work injustice to nobody, and be but a temporary, negative burden in the item of local taxation, in the locality where the lands are situated, and, even then, it is so entirely negative that it is hardly entitled to consideration. The failure to pass this bill, or some other to relieve purchasers, will be disastrous to the College endowment, and involve the State in an expense of a considerable sum to replace the lands lost to the endowment, for the preservation of which the State is under obligations to the United States.

L. R. ELLIOTT.

Manhattan, Feb. 25, 1876.



### Alfalfa Again.

An old student living in Brown county, Kansas, sends us the following note which explains itself:

PROF. E. M. SHELTON,

DEAR SIR:—Will you please inform me how the alfalfa you sowed last spring stands the winter? Also where the seed can be purchased to the best advantage? Do you recommend it as good for pasture and hay?

From Ottawa county, Kansas, we get a letter in a similar strain. The writer says:

"Knowing, through the columns of the INDUSTRIALIST, that you have several acres (of alfalfa) growing on the College farm, I would like your experience; and any suggestions which you may make, will be a favor to myself and neighbors."

Our experience with alfalfa is quite satisfactory, if not conclusive upon the question of its value to the general farmer in Kansas. This experience began in the spring of 1874, when we sowed two pounds of seed with oats in the piggery yards. Every one knows that the season following was one of unusual severity. Moreover, when the oats were about a foot high the pigs were allowed free access to the yards, and well nigh every green thing was consumed, and the ground itself trod hard as a road. To our great surprise the alfalfa survived this hard treatment, and the following spring we found many plants growing vigorously.

In the spring of 1875, we procured forty pounds of seed, mostly from California; this was sown in several plats, with grain and alone, and upon different soils. We wished to ascertain the effect of different soils and treatment upon the plant. One of these plats, a full acre and a half in size, was sown without other grain, upon old, well prepared ground. Thus far all have done well, although it is plain to be seen that the seed sown without grain upon old, well prepared land, having a moderately loose subsoil, has made the best growth.

Thus far our alfalfa has not suffered in the least from the effects of the winter. However, it is not impossible that the present "open winter" may account for its freedom from winter-killing.

As to seed we should say, emphatically, sow none of the eastern sorts. It is not generally known that there is an important difference between alfalfa grown in Europe and the eastern States, and the California variety. This last was originally obtained from seed grown in Chili and other South American States where it had been introduced from Europe by the early Spanish settlers. In these arid regions the plant assumed characters which it did not originally possess, and which enable it admirably to withstand the effects of protracted drouth. For this reason we say sow only the California variety. We have procured our seed of R. J. Trumbull & Co., 419 Sansom street, San Francisco, California, and have no hesitation in recommending this firm to parties desiring pure seed at the market rates. Last year the small amount ordered by us cost, laid down in this city, thirty cents per pound, currency.

Alfalfa owes its immunity from the effects of drouth in good part to its habit of sending its roots to enormous depths, frequently thirteen feet, hence the character of the subsoil should always be considered before applying the seed. Neither an impervious "hard pan" nor a light sandy subsoil is best adapted to the growth of alfalfa, but something intermediate between the two. A gravelly, or permeable clay subsoil, will be found to give the best results. The surface soil should be well prepared as for corn and oats, and it is not best to sow the seed with oats or other grain. Seed as early in the spring as oats are ordinarily sown, at the rate of twenty pounds per acre, and after sowing, harrow lightly, and roll the ground thoroughly.

In California the best results are obtained only upon old, well prepared ground, and doubtless the same is true of Kansas. Upon clean land of this character, well and deeply broken, with good seed, sowed in proper quantity, success may be reasonably expected with this plant. Nearly all the failures which have come under my observation, in this State and in California, are the result of inattention to these particulars.

As to its value for pasture and hay we can only say that our cattle have devoured it with avidity when growing, gnawing it close to the ground late in the season last year. It should be cut for hay early in the season, before the flower of the plant is fairly open; and while the quality of the hay is perhaps inferior to that of red clover or timothy, this failure, in the judgment of most farmers, will be more than compensated by the greatly increased quantity yielded.—[Prof. Shelton.]

## THE INDUSTRIALIST.

SATURDAY, FEBRUARY 26, 1876.

### WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, February 23d, 1876.

DAY.	Temperat'e			Bar't'r	Wind.		State of Weather
	Max.	Min.	Mean		Direction.	Veloc.	
Thursday...	52°	23°	41.0	30.207	S-E	6	Clear.
Friday.....	58	31	48.5	30.013	N-W	38	Fair.
Saturday.....	55	20	42.0	29.984	S-W	20	Clear.
Sunday.....	65	35	48.0	29.749	S-W	46	Lt R'n
Monday.....	35	14	21.0	30.413	N-W	10	Clear.
Tuesday.....	56	21	39.5	30.295	S-W	18	Clear.
Wednesday	40	12	29.5	30.328	N-W	12	Clear.

Rain-fall in inches, 0.03.

HARRY F. MCFARLAND,  
Serg't Signal Service.

Number of students enrolled this term 184.

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

By permission of the editors of the Gleaner, a paper published semi-monthly by the Alpha Beta Society, of this College, we extract for our Students' Column two articles, one headed "Changes" and the other a piece of poetry with the title "Why?" Both of these productions are good, but we think the poem the better of the two, perhaps because we are partial to that style of composition. Certainly the members of the Alpha Beta are doing a good thing for their society, besides availing themselves of an invaluable drill, in the publication of this little paper. May all its articles be as sound, as true, and as elevated in their nature, as the two specimens we have given.

### Students' Column.

More interest was manifested at the meeting of the Websters last Saturday evening than has been shown throughout the last term. Everything went off pleasantly, and all the duties were well performed. The question debated was, "Resolved, That Benjamin Franklin was the greatest statesman that America ever had." The characters of the most of our leading statesmen, and the amount of benefit America has received at the hands of each, was thoroughly discussed, and every one felt as if he knew more about the political standing of our country than he did before the debate.

### CHARADE. No. 1.

My whole three syllables employs,  
And they are equal in their separation.  
My first one may be found on every island,  
And has been known for generations;  
My second is an article of dress, worn by prince  
as well as peasant,  
When the weather is cold as well as when it's  
pleasant;  
My third is an art used by every nation,  
By all mankind in every situation.  
These three syllables are found  
A western beauty naming;  
She's in a valley in the West,  
Her morals still proclaiming;  
She extends her wealth of knowledge wide,  
And all her patrons point to her with pride.

### Why?

How ceaselessly we question why,  
From childhood's earliest years;  
And vainly strive to satisfy  
Our eager longings and our fears.  
And as the years roll swiftly on,  
Our questions never cease;  
But ever as circumstances come  
We question, why are these?  
How oft death lays his icy hand  
On loved ones, and we cry  
In anguish and bereavement, why,  
Oh, why that they should die?  
When life might be so full of joy,  
With loved ones gone from sight;  
But now the way is dark, and our sun  
Has set in endless night.  
No answer comes from the vast unknown,  
And silence shrouds the soul as a pall;  
But faith looks up in hope for the time  
When in Heaven we shall know all.

### Changes.

It is not pleasant to contemplate the sad changes which fix our attention so often. But there is a gradual and never-ceasing process of change taking place around us, which we notice only by comparison of the present with the past.

When we look back to childhood we seem to live over again those blissful hours. Each of our play-mates is seen in fancy; the same joyous laugh rings through our ears that we were wont to hear as our merry group roamed through the woodland, in search of nuts or berries. If there were sorrows and disappointments, memory conceals them; she shows us only a continuous round of enjoyment. But now our little band is separated, and our play-mates where are they? Some have removed into distant States, south north or west; while upon some death has laid its cold and icy fingers; and all that we remember of others is that while gliding down the stream of childhood our little boats kept together, but as we passed out upon the ocean of life the billows arose mountain high between us and they were for ever lost to our view. The great Creator breathes upon these fair visions and they vanish without leaving a trace of their former selves.

To one who returns to his old home, these changes are apparent. His school-mates whom he hoped to find in their old accustomed places are not there, but new and strange faces meet his anxious gaze. They only who have thus returned to what seems to them hallowed ground, can know the utter loneliness of the situation.

Two years ago there were one hundred and fifty-nine students enrolled in this College. How many of them are here now? Scarce a score. And this great change in two years. What the next two will bring we know not. In the hurry and crowd of this busy life many of us will be carried off by the tides, and our names will be known no more by those who now know us. Thus it is ever in life. In youth, ties of friendship are formed which we vow will never be broken; but in a few short years we glide from one another's view, until each is beyond the recall of the other. To review childhood hours gives us all pleasure. Is it not probable that in future time we will derive equal pleasure from contemplating the portion of our lives spent here, trying as we are to garner, in reaping-time, a rich share of knowledge; to strike the perennial fountains that will stand the droughts of time. With some of us the memory of College Hill will not pass away. The associations formed here may have a great influence in molding our after lives.



[Concluded from first page.]

recent decision of the Supreme Court of this State the lands are taxable as soon as sold. This decision affects very materially the endowment of the College, and we would recommend the Legislature to enact a law for the relief of the College and the purchasers of the lands, and to insure the lands against tax titles.

#### APPROPRIATIONS.

We would respectfully recommend the following appropriations for the fiscal year 1876, viz.:

FOR WHAT PURPOSE.	Am't asked.	Am't rec'd.	Am't saved.
For material and equipment of chemical dept't....	\$1,500	\$ 500	\$1,000
For botanical, entomological and horticultural departments.....	1,500	500	1,000
For mathematical and English departments.....	540	.....	540
For library.....	1,000	500	500
For agricultural dept't—			
Fencing.....	900	.....	900
Seeds and experiments....	500	250	250
Stock, live.....	1,500	1,500	.....
For mechanical dept't.....	1,500	500	1,000
For printing dept't.....	500	250	250
For telegraph dept't.....	250	250	.....
For woman's industrial department.....	1,500	500	1,000
For sidewalks in college grounds.....	1,050	.....	1,050
For text-books if granted to other institutions.....	500	.....	500
For chemical laboratory....	8,000	8,000	.....
For barn.....	4,000	4,000	.....
For dairy house.....	1,500	.....	1,500
For horticultural building..	5,000	.....	5,000
For blacksmith shop.....	1,000	50	950
For finishing new college and mechanical building	1,500	1,500	.....
Total.....	\$33,740	\$18,300	\$15,440

#### CONCLUSION.

In conclusion, we desire to express our approval of the present management of this Institution, and to acknowledge the courtesies of the gentlemen connected therewith for so kindly showing and explaining its workings to us.

We also desire to speak of the gentlemanly and lady-like deportment of the students, and to express our gratification for the degree of interest manifested by all in the prosecution of their labors.

To the people of the State, who desire to give to their children the benefits of practical education, we heartily commend this Institution.

Very Respectfully,

H. C. ST. CLAIR,  
Chairman on part of Senate.  
J. L. ARNOLD,  
Chairman on part of House.  
O. A. ROOT,  
T. A. HUBBARD.

MANY thousands of people pass through life without even so much as thinking what influence they are exerting upon those with whom they associate. Never for a moment realizing that they are individually responsible to God.

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**The College Farm** keeps on hand and usually for sale specimens of Shorthorn Galloway, Jersey and Devon Cattle, and Essex and Berkshire Swine. We offer for sale one yearling bull and one two-year-old Devon bull, and two Devon cows respectively three and four years old. All imported from Canada. Price, each, \$100. Address E. M. Shelton, Sup't Farm.

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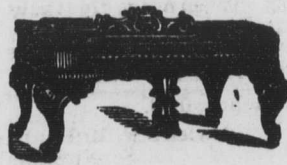
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The Farmer's Course is the leading one of the Institution. In the other courses, the special studies are equally determined by the requirements of the proposed vocation.

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**CALENDAR:**—Winter Term began Wednesday, January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

J. A. Anderson, President.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, MARCH 4, 1876.

No. 46.

## THE INDUSTRIALIST.

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### Proceedings of the House.

From the Commonwealth, Friday, Feb. 26th.

#### MORNING SESSION.

House called to order at 9 A. M., by the Speaker.

Mr. Hackney called up substitute for H. B. No. 146, making appropriations for the Leavenworth state normal school for the fiscal year ending November 30, 1876. (\$10,348.)

Mr. Hackney moved its indefinite postponement.

Mr. Elder said that if the motion of Mr. Hackney prevailed it would be because the house was opposed to furnishing any more aid to the Leavenworth school. The appropriation asked for salaries for teachers was small. It was for the house to decide whether they wished to grant further aid to this school. So far as the figures in the bill were concerned, he stood ready to defend them.

Mr. Webb believed that Leavenworth was as able to maintain schools as any other town in the state. He did not believe it would be just to refuse aid to the Concordia school while aiding the Leavenworth school.

Mr. Hackney said he had no feeling of animosity against Leavenworth, but the normal school was purely local in its character. Leavenworth was one of the largest tax-paying counties of the state, but no county had received more from the state treasury. Its penitentiary had been receiving \$100,000 yearly from our tax-payers. He would leave it to his brethren from southern Kansas to say if they ever saw a graduate in their section from the Leavenworth normal school.

Mr. Nichols, of Miami, said he had expected to oppose all the normal school appropriations, but he had concluded to support the appropriation for the Leavenworth school. He had opposed the centennial appropriation on constitutional grounds, but he believed it the duty of the legislature to support its educational institutions, that were lawfully established. It was our excellent educational facilities that made every patriot's heart swell with pride.

Mr. Taylor, of Leavenworth, said Leavenworth was never known to ask for anything for their county, without being confronted with members from other sections and treated as though Leavenworth belonged to another state. He would leave it to members to testify that Leavenworth delegation had voted solidly for the support of all measures for the benefit of the state at large—the west as well as the south. The Leavenworth normal school was legally established and the building had been furnished free of expense to the state. Members who were fighting these normal schools did not know what they were talking about. If Mr. Hackney would visit the Leavenworth school and study its practical workings, he would come back here and acknowledge that he was ashamed of himself. There were 200,000 children to be educated in the state and everybody knows that there are not enough educated teachers to instruct them. Mr. Randall, when defending the Concordia school, stated that no teachers could be obtained in his section of the state, and the people there were not able to go as far as Leavenworth or Emporia to procure a normal education. The people of the northwest practically realized that concentration was not the thing in these educational institutions.

Mr. Glick made some inquiries about the number of teachers and amount paid for incidentals. It was ascertained that there were nine teachers, and that \$900 was asked for the janitor. Mr. Glick thought that nine teachers were too many and that the amount asked for the janitor was too much. Mr. Stevens wanted to know what percent of the students in attendance at the Leavenworth normal school would graduate as teachers.

Mr. Taylor, of Leavenworth, could not answer the question.

Mr. Waters said he was in favor of one good normal school and of maintaining that one school in

a proper manner. It was better for the interests of the state and much more economical to maintain one good school. These little schools scattered about were practically of no benefit to the state at large. So long as it was the policy of the state to maintain so many little institutions, we would never have any good ones. The state university and agricultural college should be consolidated and a university established that would be a credit to the state. Mr. Waters said he was a friend of education and favored a liberal educational policy, but he did not want our efforts misdirected.

Mr. Nichols, of Cloud, said it was an old adage that "misery loves company," but he would not, because the house had refused aid to the Concordia school, oppose appropriations for the other normal schools. [Mr. Nichols then made an earnest appeal in behalf of the normal school system, and showed it was three hundred years old.]

Mr. Wood said that the Leavenworth school was modeled from the New York normal school system, and he then compared the wealth of New York with that of Kansas, showing that Kansas could not afford to follow in the wake of the great state of New York in its educational policy. The normal schools formed rings, as was evidenced in the bargain between the Emporia and Leavenworth schools. Mr. Eskridge had proposed to have the Leavenworth school ask for an appropriation of \$700 for musical instruction, so that the Emporia school could ask for the same amount for the same purpose.

Mr. Eskridge interrupted Mr. Wood, and denied that he had ever made such a proposition.

Mr. Wood said he could prove it.

Mr. Eskridge demanded the proof.

Mr. Wood said that one of the directors of the Leavenworth school had so informed him last evening in the presence of the state auditor.

Mr. Eskridge demanded the presence of that director, stoutly denying that he had made any such proposition, and charging that either the gentleman from Chase had been guilty of falsehood, or he (Mr. Eskridge) had.

The speaker said it was not necessary to call the director to the floor or to deny any of the scandalous rumors afloat about members.

The motion to indefinitely postponed prevailed as follows:

Yeas—Aldrich, Arnold, Baer, Bates, Biddle, Bissell, Brumbaugh, Burdick, Campbell of Doniphan, Campbell of Johnson, Clark, Cochran, Conrad, Davis of Bourbon, Davis of Brown, Davis of Miami, Dennis, Dixon of Woodson, Driscoll, Duncan of Harvey, Dunnuck, Farwell, Ferguson, Gest, Green, Hackney, Haff, Hallowell, Heddings, Hubbard, Johnson, Kirk, Magill, Morse, Page, Perrill, Rager, Reville, Reynolds, Rogers, Root, Silvers, Smith, Snead, Stall, Stevens, Stewart of Bourbon, Stewart of Montgomery, Tomlinson, Toothaker, Waters, Webb, Williams, Wilson, Wood,—56.

Nays—Baldwin, Ballaine, Bonebrake, Campbell of Marion, Charles, Cook, Critchfield, Dixon of Russell, Duncan of Leavenworth, Elder, Eskridge, Fenn, Foster, Frost, Glick, Halderman, Hastings, Howell, Hoyt, Kelly, Kellogg, Little, Loy, Marvin, Melville, Nichols of Cloud, Nichols of Miami, Pierce, Richardson, Saxon, Stillings, Stone, Taylor of Leavenworth, Warning, White, Wright, Mr. Speaker,—39.

Mr. Campbell, of Doniphan, moved a reconsideration of the vote, and on motion of Mr. Tomlinson the motion was tabled.

Substitute for H. B. No. 41, making an appropriation for the Emporia normal school (\$1,667.60) was next read.

Mr. Hackney moved its indefinite postponement.

Mr. Eskridge spoke earnestly against the motion.

Mr. Wood favored the motion.

Mr. Taylor, of Reno, thought it would be a disgrace to the state to adopt this motion, and that we were having a black Friday.

Mr. Elder thought the house was having a crazy spasm on the retrenchment business. He had visited the Emporia normal school, and could testify that it was an honor and a blessing to the state. The influence of the Emporia, Leavenworth, and Concordia schools, extended much further than the particular localities where they were located. We ought to write "Arkansas" on the state house if we defeated this bill.

Mr. Cook entered an emphatic protest against the motion and made a strong appeal in favor of normal schools.

Mr. Dixon, of Russell, said the house was propos-

ing to break up the educational system of the state.

Mr. Hallowell said he was in favor of educational institutions as much as any other gentleman, but he thought a normal department could be attached to the university and make the university what it ought to be. He spoke earnestly in favor of the agricultural college and state university.

Mr. Reynolds said it must not be construed that the enemies of the normal schools were opposed to an advanced system of education. He was in favor of attaching an agricultural and normal department to the State university, which would be a saving to the State of \$75,000. It was the policy of Kansas at an early day to locate a college on every hill. It was about time to have some educational institution worthy of the state.

Mr. Webb made a sarcastic speech in favor of the normal school at Emporia, and Mr. Taylor of Leavenworth spoke sarcastically in favor of blotting out the Emporia school and the entire free school system of the state.

Mr. Hackney showed that the Emporia normal school had cost the state \$160,000. He thought it was about time to give the state a rest.

Mr. Eskridge said that the city of Emporia had contributed \$16,000 toward the erection of the Emporia normal school building.

The roll was called on the motion to indefinitely postpone, with the following result:

Ayes—Aldrich, Baer, Bates, Biddle, Bissell, Campbell of Doniphan, Campbell of Johnson, Cochran, Congad, Critchfield, Davis of Bourbon, Dennis, Dickson of Woodson, Driscoll, Duncan of Leavenworth, Dunnuck, Farwell, Fenn, Frost, Gest, Glick, Green, Haff, Halderman, Hallowell, Howell, Johnson, Kellogg, Marvin, Nichols of Cloud, Nichols of Miami, Page, Reville, Reynolds, Rogers, Saxon, Silvers, Smith, Snead, Stewart of Bourbon, Stewart of Montgomery, Stillings, Stone, Taylor of Leavenworth, Toothaker, Waters, Warning, Webb, West, Williams, Wilson, Wood,—53.

Nays—Arnold, Baldwin, Ballaine, Benton, Berry, Bonebrake, Brumbaugh, Burdick, Campbell of Marion, Charles, Clark, Cook, Davis of Brown, Davis of Miami, Dixon of Russell, Elder, Eskridge, Foster, Ferguson, Hastings, Hoyt, Hubbard, Kelly, Kirk, Little, Loy, Magill, Melville, Morse, Noser, Perrill, Pierce, Rager, Randall, Richardson, Root, Still, Stevens, Taylor of Reno, Tomlinson, White, Wright, Mr. Speaker,—43.

Mr. Hallowell moved a reconsideration of the vote to indefinitely postpone, which, on motion of Mr. Reynolds, was tabled.

Adjourned until 2:30 p. m.

#### AFTERNOON SESSION.

Met at 2:30 p. m. Speaker Haskell in the chair. Roll call showed a quorum present.

Mr. Wood moved to take up H. B. No. 64, to secure equal educational interests to all the children of the state.

Mr. Glick moved to amend by proceeding with the regular order of business, which motion prevailed.

Mr. Elder called up H. B. No. 30, the university appropriation bill.

After the bill was read, Mr. Waters offered an amendment appropriating \$3,000 for a normal department of the university.

Mr. Eskridge argued against the feasibility of the project, and claimed that it would work against the poor and in the interest of the wealthy classes.

Mr. Hallowell spoke in favor of Mr. Waters' amendment. He had visited the state university at Lawrence and could say it was one of the finest buildings west of the Mississippi. He knew there was plenty of room in the university for a normal department and that three thousand dollars would set it afoot. He wanted to see an agricultural department attached also and an institution built up that all of the people would be proud of.

Mr. Reynolds spoke to the same purpose and showed by the constitution that it was the original designing to have all of these institutions at one place. He showed that the normal schools had already cost the state over half a million of dollars, and they were continually calling for more. The institution ring was trying to build itself up by locating branches in other sections of the state.

Mr. Eskridge hoped the amendment would not prevail, and said the normal department in the university was not what was contemplated by a

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, MARCH 4, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

As soon as the plans for the new buildings can be perfected, the Board of Regents will meet. Due notice will be given.

THE Hon. M. W. Reynolds has been appointed a Regent of the University.

HON. A. H. HORTON, of Atchison, and Hon. B. L. Kingsbury, of Coffey county, have been appointed Regents of the Agricultural College.

## The Result.

As will be seen by the proceedings of the House, given elsewhere, important changes have been made in the policy of the State respecting its educational institutions. No appropriations have been made for the continuance of the Normal Schools at Concordia, Leavenworth or Emporia, and a normal department is to be opened by the University. The appropriation to the Agricultural College was as follows:

For material and equipment of Chemical Department.....	\$ 500
For Fencing.....	500
For Seeds and Experiments on Farm.....	200
For Printing Department.....	200
For Woman's Industrial Department.....	500
For Outhouses.....	300
For moving Blacksmith Shop.....	100
For Finishing College and Mechanical buildings.....	1,000
For Laboratory building.....	3,000
For Horticultural and Botanical building..	4,000

Total..... \$15,300

The fact that of this sum \$13,400 were given for the erection of buildings, is the best evidence that the majority, in both House and Senate, were opposed to the consolidation of this with any other institution. There can be no better evidence of the growing popularity of the practical policy pursued by the Regents of the College, for the debate shows that the consolidation of all the educational institutions in one was urged with greater warmth than ever before. Some favored this notion because of a sincere desire to reduce the State's expenditures; some, because of local interests; and some with reference to political influence in the second congressional district. It makes no difference, however, what the causes may have been, there is no question that the consolidation theory had greater support than it can ever have again; and in view of the late struggle the friends of industrial education have especial grounds for hopefulness.

With respect to the objections made against the policy which has been followed in this Institution for the past two years, we have invariably found that they came from one of two classes: First, those who know nothing whatever about the actual work of the College; or, second, those who, having received a professional education, fancy that

a farmer must study precisely the same things that the professional man does; in other words, that the masses must be educated for the learned professions. It is an easy matter to pass judgment under such circumstances, and the less one knows of the difficulties of furnishing an education that will have a cash value to the working classes the less is he bothered in making an oracular decision. That is human nature, and we don't complain in the least; only we wish such gentlemen would give us the opportunity of showing them what the College is doing and why it is doing it. Come!

## State Agricultural College.

Every friend of the vital industrial interests of the State, will rejoice that the people's institution—that institution which of all others in this whole country is working out the great problem of industrial education—has been saved from the jaws of destruction. A fair appropriation bill went through the House yesterday, by a good majority. It will pass the Senate beyond a doubt, and the institution will be kept on in its building up work. \* \* \* \* —[Atchison Champion.]

KANSAS raised more corn to the acre last year than any other State in the Union, the average yield exceeding that of Illinois four bushels to the acre, Ohio five bushels, and Iowa three and a half. The average yield of wheat per acre exceeded that of New York, Ohio, Indiana, Illinois, Iowa, Missouri, and California among the great wheat-producing States; but Pennsylvania beats it three-tenths of a bushel per acre; Michigan, one bushel; Wisconsin, one and a half bushels, and Minnesota, four and one half bushels.—[Atchison Champion.]

## The Agricultural College.

The apparent hostility of the Ways and Means Committee of the Legislature to the Agricultural College we believe to be wrong. We have watched with much interest the plan of education pursued by the President and Faculty of the College, and unhesitatingly say that we believe it to be the most sensible way of educating those who intend to gain a living in any of the industrial pursuits. That in this State the industrial callings have larger claims than the professional callings upon the educational funds of the State, surely no one will pretend to deny. This being so, any measure which proposes more aid to the University than to the Agricultural College is not only unwise but unjust.

If it be necessary that either of these institutions should be dealt with penuriously, it should be the University. There are very few places where an industrial education can be obtained, and we believe our Agricultural College to be the best of the kind in the country. As a rule, those who design educating themselves for the professions are better able than farmers and mechanics to go to a distance to obtain their education. Upon these grounds we think that our Agricultural College deserves and should receive the preference of our legislators in their appropriations for educational purposes.

In a recent editorial, the Manhattan Nationalist charges that the opposition to the Agricultural College comes from "those who desire to keep the masses as ignorant as possible that they may prey upon them the more easily." We do not believe anything

of the kind. Nothing could be more unwise than to use this class cant. We do not believe that any class of people have such mean intentions against one another. The newspapers of the land will have made an advance in the cause of education when they begin to use reason instead of class prejudice for argument.

The opposition to the Agricultural College arises from a want of knowledge of its work. Many well-meaning men believe that it is not accomplishing what it was designed for. Others think that it is unwise for the State to support so many separate educational institutions, and that the University, Agricultural College and Normal Schools should all be united. This would make a stronger institution, financially considered, but we doubt that industrial education would flourish in such an institution. These doubts arise from a belief that the prevailing belief among educators would cause the University to be ruled in a manner inimical to industrial education. The Agricultural College should be maintained as a separate institution, and should have a generous appropriation.—[Girard Press.]

\* We have never thought of charging that all who oppose the present system of education at the College belong to the bird of prey class.—[Nationalist.]

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25-6m



# THE INDUSTRIALIST.

SATURDAY, MARCH 4, 1876.

## WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, March 1st, 1876.

DAY.	Temperat'e			Bar't'r	Wind.	State of Weather
	Max.	Min.	Mean			
Thursday....	65°	23°	44.7	29.835	S-W 10	Clear.
Friday.....	70	38	57.5	29.581	S-W 16	Clear.
Saturday....	55	35	41.0	29.331	N-W 16	Fair.
Sunday.....	35	17	22.7	29.754	N-W 38	Cloudy
Monday.....	34	13	23.5	30.324	N-W 12	Clear.
Tuesday.....	43	12	33.0	29.978	S-E 15	Lt R'n
Wednesday..	32	15	27.5	30.243	N-W 24	Cloudy

Rain-fall in inches, 0.08.

HARRY F. MCFARLAND,  
Serg't Signal Service.

Number of students enrolled this term 189.

The birds are singing this morning as if the actual spring had fully come.

In reply to several correspondents we wish to say that students can enter the College at any time.

Our supply of capital "M's" became exhausted on the outside this week, which accounts for the omission of Mr. before names in the latter part of the article entitled "Proceedings of the House."

The following students have entered College since our last report: Cordelia Williams, Topeka, Shawnee county; Mary C. Jameson and Annie L. Jameson, Randolph, Riley County; Mary B. Williams, Manhattan; — Mathews, Strawn, Coffey County.

When one is in a hurry it is a decided advantage to clip fresh College locals from the Nationalist, as follows:

W. C. Howard, who has been teaching school near Topeka, returned home last week.

The Websters were pleasantly surprised last Saturday evening by a call from some ladies.

Charles Sternberg, belonging to the assaying class, succeeded on Tuesday in separating from the ore a good sized bead of gold.

Prof. W. K. Kedzie writes from Lansing, Mich., that he is gradually recovering his health, and will probably be with his classes again in a few weeks.

There was probably nothing introduced into the curriculum that produced so great a howl as Industrial Drawing. Two years ago almost every student assigned to this department entered it under protest. But Prof. Whitman now enjoys the satisfaction of knowing that all opposition to his "extra department" has died away, and that drawing is now one of the popular and successful courses of the College, and many are beginning to realize the superior advantages this course affords.

## Students' Column.

The Horticultural Department has begun its spring work. A team has been engaged for some time in removing the cornstalks and rubbish from the nursery, and is now plowing.

We hear of a little gathering at the residence of Mrs. Cripps, Sup't of Sewing Dep't, last Thursday evening. We know they had a nice time, for Mrs. C. understands how to entertain young folks.

Some of the students have selected an appropriate drama for this our centennial year, and propose offering it to the public in a few weeks. A more extended notice will be given when all the arrangements are perfected.

Several of the students have been compelled to quit College for the remainder of this term, to engage in farm work at their homes. They regret the necessity of this step, so do we, but it takes time to obtain an education and the change of work will only strengthen them for the tasks of another school year.

Competent judges pronounce the guitar which a certain young gentleman of this College received

as a present some time ago, an excellent instrument in every respect. This reflects credit upon Conover Bros., Kansas City, Mo., of whom the guitar was purchased. The firm has been patronized quite extensively hereabouts, and we have heard no complaint on the part of any.

"What a winter!" is the greeting which comes from every quarter. It has been spring all winter. Some said that March would provide a sufficient amount of cold, disagreeable weather for a whole winter, but to-day, the third of March, is as pleasant as any May day; the wild geese as they fly toward the north, and the little birds which flit around the trees and through the hedges, give evidence of the arrival of spring; while the action of all nature confirms this fact.

The members of the Webster Society being gentlemen, the debaters were somewhat surprised by the appearance of some of the lady members of the Alpha Beta Society at their meeting last Saturday evening. But we hope that our Society is conducted in such a manner that lady visitors will always find a hearty reception, and feel at home when they come. The question for debate was "Resolved, That miners should be allowed to enter the Black Hills." Decided in favor of the affirmative. The motion to amend the constitution was lost. Extemporaneous speaking passed off pleasantly. After the reading of the minutes and the report of the critic the Society adjourned.

REPORTER.

When the semi-monthly Gleaner, published by the Alpha Beta Society, is to be read, Prof. Whitman's room, the place of meeting, will hardly contain the members and visitors; but the other meetings are characterized by a great scarcity of members. Often there are as many visitors as members. This should not be. The members by the obligation which they take owe the society at least their presence, and to see visitors more regular and prompt in attendance than members is humiliating.

That the meetings of the society may be interesting, profitable and successful, every member must attend regularly, perform cheerfully and to the best of his ability the duties assigned him. He should consider his society as a business matter of his own which must receive prompt and faithful attention; and should work as zealously and earnestly for its best interests as if he were the only member in it. If every member would thus labor we would see a great difference between our future meetings and our last.

At the meeting on the 25th ult., the following question was discussed and decided in the affirmative: "Resolved, That our knowledge is intuitive rather than gained by experience." A well written essay was read by C. A. Dow on "Intemperance." Mr. Blain delivered a declamation and Mr. Maltby favored the society with a select reading from the New York Tribune.

Everybody earnestly invited to attend the meetings.

MEMBER.

Dr. Patee.

20-1f

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Webster Society of the Kansas State Agricultural College. Organized, October 12th, 1868; chartered, January, 1871. Motto: "Labor Omnia Vincit." Meets Saturday evening each week. A. R. OURSLER, President. WEBSTER HARMON, Secretary.

Alpha Beta Literary Society.—Organized, October 17, 1868; chartered, December 26, 1870. The Society holds its sessions, in the College building, every Friday afternoon at two o'clock. Both ladies and gentlemen admitted. Visitors always welcome. A. A. STEWART, President. MISS MELVA SIKES, Secretary.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

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Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

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[Concluded from first page.]

normal school.

Mr. Waters was surprised at the statement of Mr. Eskridge that no state university had a special department for normal instruction. The house had decided that they would make no appropriation for the maintenance of separate normal schools. His amendment was for the purpose of concentrating the educational institutions in the interest of both economy and education.

Mr. Wood took pride in the state university as well as the people of Lawrence, who had contributed so liberally toward the erection of the university building. There were less than twenty students to each professor at the university. It was about time that the knife should be applied to the superfluous institutions in the state, and the rings broken up.

Mr. Glick thought that the house was getting the educational institutions on a proper basis. We needed a state university and an agricultural college. He favored the establishment of a normal department at the state university, but he was opposed to voting \$3,000 for its maintenance. He wanted to know how many professors were proposed to be provided for at the state university and at what salaries. There were hundreds of clerks in the state working 12 or 14 hours a day for \$75 a month, and there was scarcely a farmer in Kansas that could make \$1,000 a year. He didn't propose under such circumstances to pay educational professors \$1,800 to \$2,000. He moved that the bill be referred to the committee on ways and means with instructions to report a new bill providing for a normal department and an itemized statement of the amount proposed to be paid for teachers' wages, to report on Monday next.

Mr. Snead thought there was not much consistency in killing the normal schools and upholding the state university. He thought all educational institutions maintained at the expense of the state should go without aid for at least a year, and that there was some congressional buncombe in the proposition.

Biddle spoke in favor of Glick's motion.

Eskridge suggested that if congressional aspirants in the second congressional district could make a combination to help each other, the members outside that district should understand the situation. He wanted members to understand that gentlemen favoring the proposition for a normal department at the state university were endeavoring to dodge things.

Mr. Nichols, of Cloud, coincided with the views of Mr. Eskridge.

Mr. Hallowell thought Mr. Eskridge ought to stand it like a little man, the circumstances of the house having struck down the Emporia school. The second congressional district was not responsible for the fact that the state had located the state university at Lawrence. The whole state was equally interested in the state university, which should be the pride of the state. He strongly repelled the idea that those who were opposing the normal schools were combating our educational system. On the contrary they were trying to perfect it.

Mr. Webb thought the state university should be made what it ought to be and what was intended it should be.

On motion of Mr. Foster the previous question was ordered.

The motion of Mr. Glick to re-commit was adopted.

Mr. Glick moved that the appropriation bill for the state agricultural college be re-committed to the ways and means committee with the same instructions given said committee on the state university appropriation bill.

Mr. Elder said that a normal department could not be established at the agricultural college without the erection of additional buildings.

Mr. Wood thought it would be better for the state to insist that the agricultural college should refund the money it borrowed of the state (\$30,000) in the shape of a suitable building for the normal department.

Mr. Nichols, of Cloud, said that he had recently visited the agricultural college at Manhattan, and he could testify that there was not now enough room for the present wants of that institution.

On motion of Mr. Hackney the motion of Mr. Glick was lost.

Mr. Elder then called up the appropriation bill for the agricultural college, (\$22,420.56.) Hackney moved its indefinite postponement.

Hallowell hoped that the motion would not prevail. He wanted to have the agricultural college maintained. It was the only institution for farmers we had in the state. He wanted a normal department established at the agricultural college and thought the bill should be re-committed to the ways and means committee for the purpose of having them provide for such a department. Reynolds said that the agricultural college had never turned out ten practical farmers in the state. He wanted an agricultural department to be established at the state university. The state had paid \$3,000 for the erection of a barn at the agricultural college, when the stock of most of the farmers have no shelter. It was about time that

the state university had law and theological departments as the law required.

Mr. Wood insisted that the motion of Mr. Hackney should not prevail. The agricultural college would soon be on a self-sustaining basis. It was practically a farmers' and mechanics' college, and was doing good work under the present management; the institution was being run according to law.

Mr. Glick said the agricultural college had in past been managed by politicians. It was not the fault of the people of Manhattan nor the professors that no better school was maintained. He thought that a normal department could be attached to the agricultural college and maintained; that a normal education could be taught in a lecture room. He wanted the institution taken out of the hands of the politicians and placed in the control of practical farmers, and insisted that all politicians be excluded from the college farm.

Mr. Wright said that the agricultural college was the best and most useful educational institution in the state. Sewing, printing, telegraphy, carpentry, and other industries, were taught there. Mr. Wright made an earnest appeal to members to uphold this institution.

Mr. Davis, of Brown, was pleased to note a better spirit prevailing in regard to the educational institutions. He was no enemy to the state university, though he thought it was a costly luxury. There were many gentlemen here who talked eloquently in favor of the state university but who were ready to strike down the poor man's college at Manhattan.

Mr. Tomlinson said he had been inspecting the report of the agricultural college and found that "Bleeding Kansas" was educating at that school students from New York, Canada, Illinois and other distant localities, while the little county of Riley alone had eighty-five students there. He thought it was an imposition on the farmers to maintain that the agricultural college was a farmers' institution, and hoped the motion of Hackney would prevail.

Brumbaugh hoped that the legislature would not strike down the agricultural college, for when you strike down that institution you strike against the agricultural interests of the state. He was sick of this demagogical howl about economy and reform.

Benedict said that last winter he had made the same motion that Hackney had just made, and he was satisfied from subsequent investigations that he was then wrong. He had recently visited the agricultural college, and he could testify that it was doing good work for the farmers of the state.

On motion of Hallowell the previous question was ordered.

The motion of Hackney to indefinitely postpone was lost by 7 ayes to 83 nays.

Wright moved that the bill be referred to the ways and means committee to perfect the bill, which was amended by Glick so as to instruct the committee to report the feasibility of establishing a normal department there.

The motion of Wright with Glick's amendment was lost.

The house then passed a bill appropriating \$15,300 for the maintenance of the agricultural college this year, by a vote of 67 to 7.

Adjourned until 7:30 p. m.

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**CALENDAR:**—Winter Term began Wednesday, January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

J. A. Anderson, President.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

Vol. 1.

MANHATTAN, KANSAS, SATURDAY, MARCH 11, 1876.

No. 47.

## THE INDUSTRIALIST.

Published every Saturday by the  
PRINTING DEPARTMENT.

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### Agricultural College.

The Girard Press thinks there ought to be a generous appropriation made for the Agricultural College. We should say so, too, if the Agricultural College faculty will confine their instructions to agriculture, horticulture, and the like; but we do not believe the State ought to be made to pay for the cost of learning the printing trade, the blacksmith trade, and a baker's dozen of other trades. And another thing: what becomes of all the money that that institution fails to account for? There is nothing that needs more encouragement, that needs a more thorough, practical knowledge in all its various departments, than agriculture. Those who follow the calling (it ought to be a profession) of a farmer ought to have the very best of education—a general knowledge of things. But this does not argue the necessity of graduating agricultural students in all the professions and trades.—[Hawatha Herald.]

The facts in this case are as follows: Congress gave eighty thousand acres of land as an endowment of "a college where the leading object shall be to teach such branches of learning as are related to agriculture and the mechanic arts, in order to promote the liberal and practical education of the industrial classes." As agriculture is the chief industry of this State, Kansas has properly designated this Institution as an Agricultural College, but it is clear that Congress endowed it for the benefit of the mechanic as well as of the farmer, in fact for the working classes, be the form of their labor what it may. In some States these institutions are called "Agricultural and Mechanical Colleges," and the name "Industrial College" is more fully exact than any other.

By the sale of lands and the investment of the principal, an annual income of \$19,000 has been obtained, and now meets salaries and the ordinary expenses of instruction, such as fuel, janitors, etc. So that teaching agriculture, or the trades mentioned by the Herald, does not cost the State a cent. Whether Congress should have limited this grant to the teaching of agriculture alone, and have made some different provision, or none at all, for the rest of the industrial classes, is a matter in which the authorities of this College have no voice. Congress had a right to do as it pleased with its own

property, and it chose to prescribe that the endowment should be for the benefit of agriculture AND the mechanic arts. All that we can do is to execute, not make, the law.

In addition, years ago the Legislature enacted that the Agricultural College should educate girls as well as boys. It is nonsense to put a girl through a course of instruction especially designed for a farmer or mechanic, just because she will not be a farmer. But as this Institution is for the benefit of the industrial classes, it can only receive her as an industrialist, and, if true to its trust, must give her such an industrial training as will enable her to earn a livelihood by some of the trades open to women. It is for this reason that several of the trades are here taught, not being introduced for either the farmer or mechanic but for women who may have to work their own way through life.

So far from "graduating agricultural students in all the professions and trades," as the Herald had supposed, the agricultural students are not expected to enter a single one of the shops, unless it may be that of the carpenter, and only then for the purpose of acquiring such average skill in the use of wood tools as farmers find to be profitable. The agricultural course is by all odds the leading one, as it ought to be; and is more practical than can be found in any other college in the United States.

It is natural that persons who are not familiar with the laws governing this Institution, and who only judge by the name it bears, should draw the conclusions stated in the above extract; and we trust this explanation will satisfy the Herald on this part of the subject.

In regard to its question "What becomes of all the money that Institution fails to account for?" we wish to say, with the utmost emphasis, that every fraction of a cent is accounted for. The investigating committee appointed by the last Legislature, after an extended examination, reported as follows:

"We find the accounts of the Treasurer, Loan Commissioner and Secretary of this Institution in a very satisfactory condition. Their system of keeping accounts is of the most improved style of any now in use. The appropriation made by the Legislature of 1875, for building purposes, we find to have been expended as follows, &c., &c. The Land and Loan department of the College is in good hands and well managed."

If any portion of the funds were not

accounted for, that investigating committee would have stated the fact, and the last Legislature, which was particularly and properly anxious to unearth frauds of all sorts, would most certainly have gone through so great a piece of rascality as the question of the Herald implies. If the above evidence is not satisfactory to the Herald, we will be very glad to aid its editor in making such a personal examination as will satisfy him respecting not only the financial but the educational condition of the College. If this Institution is doing the work which the law requires it to do, then the friends of the working classes should sustain it; if not, they should show wherein its work can be better done. In either event, that mere justice to which every person is entitled should be awarded it. And we are glad to say that the press of Kansas has been fully willing to do just this thing. The Herald has been misinformed, and we doubt not will, when satisfied respecting the facts of the case, set the matter in a different light from that of the above article.

### Mistaken Kindness.

The mother that toils in the kitchen herself rather than condemn her daughter to its hot and hateful duties, or to a share of them, feels, doubtless, that she is performing a virtuous and laudable part; the daughter will have to come to them all in good time, she argues; till then let her enjoy her girlhood the best she can. She does not consider that any enjoyment can be found in the occupation, when, in truth, with youth and hope and the intention to abridge her mother's work for co-laborers, the real enjoyment would be as great in stirring about a kitchen as in lolling in a parlor; and this mother fails to remember that when she came to these duties all in good time herself, with somebody else besides herself to please, she would have found them inestimably easier if she had brought to them some of the training and experience and system that her own mother could have imparted to her. To do a young girl's sewing for her, too, may be a far too frequent unkindness on the part of tender aunts and indulgent elder sisters, and it is as unwise as it is to bar her out of the kitchen. It is usually done with the understanding that she hates the confinement of sewing; but her proper, her merely necessary, sewing can not by any exaggeration be of such vast proportions as to require any considerable amount of her time, or to keep her away from exercise and open air, and is really less confinement, in point of health, than a novel. And when she needs the knowledge, her fingers are scarcely so flexible as to let her attain it without difficulty, and what might have been a pleasure has become a task.—[Harper's Bazar.]



# THE INDUSTRIALIST.

SATURDAY, MARCH 11, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

SINCE the Topeka Blade received its new press and added several inches to itself every way, we feel lonely in the respect that the INDUSTRIALIST, not having enlarged, is now the smallest paper in the State. We used to be as large as the Blade.

OUR architect, E. T. Carr, is in Philadelphia supervising the erection of the Kansas Centennial building, and will not return before the 20th. As a consequence the specifications for our new buildings will hardly be prepared before April 1st. The meeting of the Board of Regents will be held as soon as the plans are in readiness for its action, and will probably be on the 4th or 11th of April. Due notice will be given.

THE Topeka Times seems to have a special spite at the Agricultural College. What is the matter with you, brother? The farmers of the State do not wish their school attached as a mere tail to the University. When "Consolidation" takes place, it will be done on the Fort Riley reserve. The Agricultural College is already in the right place, and will not be removed.—[Junction Tribune.

The editor of the Topeka Times is a Regent of the University.

SENATOR DOW this winter has added to the solid reputation he had formerly won as a clear-headed and able legislator. Those who fancy that a Senator's position is one of mere glory, and not one involving the hardest kind of hard work, are greatly mistaken. Besides his duties in the Senate, which were faithfully performed, Mr. Dow was on several committees that required a deal of labor. He met his responsibilities in a square-shouldered straight-dealing way that cannot but commend itself to his constituency.

DR. LITTLE, the Representative from Riley, proved to be one of the hardest working and most efficient members of the House; was independent in the expression of his opinions; thoroughly wide awake to the interest of his county; and successful in maintaining them. His constituency can have the satisfaction of knowing that they were represented by a gentleman who squarely did what he believed to be right, dodged nothing, and stood far above the average in the respect and esteem of his fellow members.

SOME weeks since our friend Thacher fired off the Lawrence Journal at the INDUSTRIALIST. We were too busy in a more important legislative tussle to reply just then, and it seems hardly necessary

now. "Peace" is a good thing, we want it as much as anybody can; but the order in which that article is obtained was stated centuries ago thus: "(1) Righteousness, (2) peace, and (3) joy—" all of which may be freely translated: "Let the endowment given for the education of the industrial classes alone, if you professional gentlemen want peace." By all means let us have that kind of peace—no other. Be virtuous and you will be happy, O Howadji!

## Classics versus Practical Education.

The Syracuse University Herald has made up the following table of Presidents and their places of education, which is of interest:

Washington—Good English education, but never studied the ancient languages.  
Adams—Harvard.  
Jefferson—William and Mary.  
Madison—Princeton.  
Monroe—William and Mary. Did not graduate.  
Adams, J. Q.—Harvard.  
Jackson—Limited education.  
Van Buren—Academic education.  
Harrison—Hampden Sidney College. Did not graduate.  
Tyler—William and Mary.  
Polk—University of North Carolina.  
Taylor—Slightest rudiments.  
Fillmore—Not liberally educated.  
Pierce—Bowdoin.  
Buchanan—Dickinson.  
Lincoln—Education very limited.  
Johnson—Self-educated.  
Grant—West Point.

The question nowadays is between a classical and practical education. For the former it is claimed that the peculiar "mental discipline" imparted by the study of dead languages and abstract mathematics gives to its pupils a superior mental power. For the latter it is claimed that equal mental force is acquired by the study of practical sciences. The test of the question is the work performed by the representatives of each education.

There is no position which more surely tries every faculty, or more plainly exhibits every ounce of strength, than that of President of the United States. Look at the above list with reference to those classically educated and those practically educated. Of the former were Adams, Jefferson, Madison, Adams, Tyler, Polk, Pierce and Buchanan. Of the latter were Washington, Monroe, Jackson, Van Buren, Harrison, Taylor, Fillmore, Lincoln, Johnson and Grant. West Point teaches neither classics nor unapplied mathematics. In which of these two groups were the readiest and strongest men. To come down to our own days, since the administration of Polk only Pierce and Buchanan had received a classical education. Taylor, Fillmore, Lincoln, Johnson and Grant being graduates of "Knock About University."

Here are facts; and perhaps they are worth as much in the way of reliable evidence as is the usual poster, pasted on Commence-

ment boards with diminutive Senioric brushes, and setting forth the power and glory of Demosthenic "culture." Another fact is that only about one-third of the Senators and Representatives of the United States are graduates of classical colleges, the rest are your practical gentlemen.

## The Native Grasses.

We have heard the praises of Kansas, as a grain-growing country, often sung, and we have seen corn selling in her rural towns at one dollar per bushel and difficult to obtain at that. We have heard it said often that Kansas was to be the great fruit-growing State, but we have seen whole orchards in a single season scorched with the protracted drouth and gnawed by grasshoppers until life had forsaken them. We have heard the hope confidently expressed that Kansas would yet prove to be well adapted to the "tame grasses" and we yet cherish this hope, but we do so in the face of many stubborn adverse facts. But we do not remember to have ever seen in agricultural reports or in the prospectuses of land agents, a single word concerning the subject named at the head of this article. We suppose that the reason of this is that Kansas grasses need no puffing. Perhaps the topics upon which our advertising friends love to dwell with so much emphasis are a little obscure; certainly we have seen corn a total failure one year, and wheat and oats almost total failures the year following; but whether grasshoppers or drouth or both came, we have never yet seen the native grasses of Kansas reduced to even a half crop.

The truth is that just now we of central and western Kansas have nothing that will certainly take the place of these native grasses that we so recklessly destroy. The day is not distant when a good prairie meadow will have a much greater value than the arable portions of the farm, just as in the eastern States the wood lands are worth treble the plowed fields. We most earnestly counsel every farmer to think twice before deciding to shorten the area of his permanent natural meadow, because the grasses are a link in the round of farm operations that cannot be omitted. "More grass," says the old adage, "more cattle, more cattle more manure, and more manure more grain."—[Prof. Shelton.

**Manhattan Bank.**—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

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# THE INDUSTRIALIST.

SATURDAY, MARCH 11, 1876.

## WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, March 8th, 1876.

DAY.	Temperat'e			Bar't'r	Wind.		State of Weather
	Max.	Min.	Mean		Dirac-tion.	Veloc.	
Thursday...	41°	23°	32.7	30.463	S-E	6	Fair.
Friday.....	60	24	45.2	30.078	S-W	18	Clear.
Saturday.....	65	38	54.2	29.727	S-W	35	Cloudy
Sunday.....	66	38	54.7	29.555	S-W	38	Lt R'n
Monday.....	38	18	21.2	29.869	N-W	12	Clear.
Tuesday.....	46	17	37.0	29.870	S-E	6	Clear.
Wednesday...	59	38	53.0	29.533	S-W	18	Cloudy

Rain-fall in inches, 0.34.

HARRY F. MCFARLAND,  
Serg't Signal Service.

School Bonds wanted. See advertisement.

Number of students enrolled this term 189.

Since last report, Mr. Emery W. Benjamin, Effingham, Atchison county, has been enrolled.

We have been treated to every kind of weather this week, warm and cold, dry and wet, sleet and snow.

A new time-table governs the arrival of the Kansas Pacific trains at this point. The morning train going east, leaves at 10:45, and the evening train going west, at 3:47.

A. Whitcomb, of Lawrence, has just issued his spring catalogue of green-house plants. The lovers of flowers will find a choice collection from which to select, and as Mr. Whitcomb sends plants by either mail or express, any one can be supplied with Kansas raised plants at low rates and little trouble.

We are very glad to be able to say that Prof. Wm. K. Kedzie, who has been seriously ill, at his home in Lansing, is once more on his feet and recovering as rapidly as can be expected. The fact is we have been decidedly uneasy about him, and rejoice with his many friends here on the receipt of better news. His brother, Prof. Robert Kedzie, has charge of his classes and no interruption has occurred in either the quantity or quality of the work they are doing.

## FARM ITEMS.

To Mr. Frederic Henley, Bangor, Coffey county, we forward this week a two-year-old Devon bull, bred by the College.

Our stock seems to appreciate the late genial winter and abundant feed; we have to report for the week new arrivals as follows: One Devon bull calf, and ten little Berkshires that acknowledge a common mamma. The old price, \$10 each, will be adhered to.

A recent examination of the growing grains and grasses upon the College farm, enables us to report upon their condition. Wheat and rye have not suffered in the least during the winter, but on the contrary have made a steady growth during most of this time. Of the timothy we can not speak quite so confidently, although we are not without hope of a good stand. Our alfalfa is in excellent condition and already well-nigh covers the ground with a dense growth of foliage.

We have just ordered from California a very nice article of alfalfa seed, due here in time for spring seeding. As the amount ordered is about forty pounds, sufficient to seed two acres, in excess of what we shall use the coming season, we propose to let any one take this forty pounds at its cost laid down here. The advantages of this arrangement to the purchaser are that he will get the best seed at the lowest rates. Last year our seed cost us thirty cents per pound. We hope to get it this year at something less than these figures.

The following College locals we extract from this week's Nationalist:

Last Friday the Diagnotheans resolved to vary their regular exercises by having a mock trial in two weeks.

The grades for January are posted in the hall this week. There are fifty-eight names in the first grade, which includes those above ninety-five.

The plans of the chemical and horticultural buildings are drafted and the specifications will soon be ready and bids called for; so that these buildings will probably be commenced before the term closes.

The members of the botany class have voted that they will provide themselves with compound microscopes for the spring work. The study of botany, under Prof. Whitman, means a good deal more than is usually understood by that phrase.

The students' prayer meeting of Friday evening was held in Prof. Ward's room, that of Prof. Platt being too small. Great interest was manifested throughout. This meeting exerts a wide influence and is doing a great deal of good among the students.

The class that has had Moral Science the first half of the term has now taken up Political Economy, which will be studied during the remainder of the term. The class recitations are varied occasionally by essays on practical questions of the science.

Captain Todd, with the help of the members of his class, is continually making additions to the stock of the carpenter shop by manufacturing new machines. Some eight or ten scroll-saws, a turning-lathe and other tools, for the use of the class, have been made. The latest is a combined scroll-saw and molding-machine which was contrived by Mr. Todd himself, and is to be used for doing the finishing work on brackets and similar work.

## Answers to Correspondents.

Linn county: Boarding ranges from \$2.25 to \$4 per week.

Bourbon county: You can enter this Institution at any time, if you are able to keep up with the classes now in progress.

Douglas county: You will have no difficulty in finding one or more messmates, and can reduce the expense of living by such an arrangement to from \$1 to \$1.50 per week.

Jefferson county: The question is, which will pay you best in the long run? As a telegraph operator you can earn from \$50 to \$75 a month. As an intelligent, skilful farmer, your crops ought certainly to be worth more than from \$600 to \$900 a year, or from \$50 to \$75 per month. And remember that in the first as well as the last case you have to "find yourself." As an operator you are not apt to receive greatly better wages at the end of five years. As a farmer, if you attend to business, your property at the end of five years, counting value of farm, stock, etc., will be worth far more than your savings (?) as an operator. Be your own man, and not another man's clerk. Take the Farmer's course and not telegraphy.

## Students' Column.

The annual entertainment given every spring, by the department of Instrumental Music, will be offered sometime in April this year. The programme consists in both vocal and instrumental solos, duettes and trios; also a beautiful cantata in which Queen Flora bids welcome to May and crowns her queen. Those who attended the last annual entertainment can form an idea as to the ability of this department to prepare an exhibition which an audience cannot fail to enjoy. We are confident that the efforts of this department will be appreciated by all lovers of music.

Nothing of an unusual nature transpired at the meeting of the Websters last Saturday night. The debate was quite interesting as considerable enthusiasm was manifested by the speakers. The written debate, read by two of the members, was greatly enjoyed. This exercise has so far proved a success, being both interesting and profitable. The last few meetings of the society evince a decided improvement on the part of the

members as regards keeping order and working together for the society's best welfare. After the regular closing exercises, the society adjourned.

REPORTER.

We were pleased to observe an unusually large number of members present at the regular session of the Alpha Beta Society, on March 4th. The question: "Resolved, That LaFayette did more for the independence of the colonies, during the Revolution, than Washington," was discussed and decided in the negative. Had it not been for the "forgetfulness" of two, of the lady members the decision might possibly have been different.

After extemporaneous speaking, the sixth number of the Gleaner, under the auspices of Mr. Geo. Wake and Miss Ella Child, was read and listened to with interest. The arrangement reflects credit on the editors, and when George becomes editor-in-chief of the Tribune he will doubtlessly remember his experience as editor of the Gleaner.

The society's janitor having resigned his position another person was elected in his stead, after which the minutes were read and the society adjourned.

REPORTER.

## Dr. Patee.

20-tf

**The Annals of Kansas**, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

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**Webster Society** of the Kansas State Agricultural College. Organized, October 12th, 1868; chartered, January, 1871. Motto: "Labor Omnia Vincit." Meets Saturday evening each week. A. R. OURSLER, President. WEBSTER HARMON, Secretary.

**Alpha Beta Literary Society.**—Organized, October 17, 1868; chartered, December 26, 1870. The Society holds its sessions, in the College building, every Friday afternoon at two o'clock. Both ladies and gentlemen admitted. Visitors always welcome. A. A. STEWART, President. MISS MELVA SIKES, Secretary.

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**School District Bonds.**—Several thousand dollars in School District Bonds wanted March 1st, for which the highest prices will be paid. Those direct from District Boards will always have the preference. In all cases, copies of all papers relating to the issue of the bonds must be forwarded, duly certified to by the district clerk. Blank bonds filled out ready for signature when desired. For prices and blanks, address E. GALE, Loan Commissioner, Manhattan, Kan.



# THE INDUSTRIALIST.

SATURDAY, MARCH 11, 1876.

THE Concordia Expositor says: "The parents of students in our Normal School will undoubtedly rejoice to know that the State Normal School at this place will be kept until the close of the year—sometime in June. It is only by a strong effort on the part of all interested—the faculty, the students and the citizens of the town—that it is being kept up until then, and we are happy to make the announcement. A subscription is being circulated among the students of the school, and the amounts subscribed are far above what was at first anticipated.

On the 4th of July, 1776, George Washington was 44 years old; Martha Washington, 34; Sam. Adams, 54; John Quincy Adams, 9; Thomas Jefferson, 33; Patrick Henry, 40; James Otis, 51; Fisher Ames, 18; William Pitt, 68; Josiah Quincy, Jr., 32; Nathaniel Green, 34; Edmund Burk, 46; Jonathan Turnbull, 36; Roger Sherman, 55; Aaron Burr, 20; Benedict Arnold, 33; John Adams, 41; Abigail Adams, 32; James Madison, 25; Thos. Payne, 39; George Clinton, 37; Alexander Hamilton, 19; Robert R. Livingston, 29; Phillip Livingston, 60; Phillip Schuyler, 43; Benjamin Franklin, 70; Benjamin Rush, 31; Robert Morris, 41; Charles Carroll, 39; Caesar Rodney, 46; Edward Rutledge, 27; William Moultrie, 45; Horatia Gates, 48; John Rutledge, 87; Thos. Sumter, 45; Charles C. Pinckney, 30; Charles Pinckney, 18; Tim. Pickering, 31; Anthony Wayne, 31; Israel Putnam, 58; Rufus King, 62; John Hancock, 39; Elbridge Gerry, 32; Richard Stockton, 26; George Wythe, 50; Marquis LaFayette, 19; Francis Marion, 34; Henry Knox, 26; Richard Henry Lee, 44; John Jay, 31; James Monroe, 18.

**A Thorough and Direct Education.** at the Kansas State Agricultural College, for the Farm, Orchard, Shop and Store. Tuition Absolutely Free! The winter term began Wednesday, Jan. 5, and closes Wednesday, May 24, 1876.

**English Language.**—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

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**The College Farm** keeps on hand and usually for sale specimens of Shorthorn Galloway, Jersey and Devon Cattle, and Essex and Berkshire Swine. We offer for sale one yearling bull and one two-year-old Devon bull, and two Devon cows respectively three and four years old. All imported from Canada. Price, each, \$100. Address E. M. Shelton, Sup't Farm.

**Mathematics.**—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

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30-11

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**Special for Woman.**—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc.

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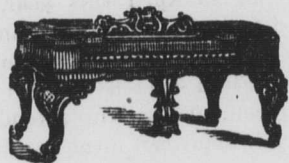
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25-6m

## KANSAS STATE AGRICULTURAL COLLEGE.

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**THIS** College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

### FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life.

The Farmer's Course is the leading one of the Institution. In the other courses, the special studies are equally determined by the requirements of the proposed vocation.

### MECHANIC'S.

To Mechanics, in addition to those studies of the Farmer's Course which are useful to the student in his proposed vocation, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

### WOMAN'S.

The course of study for woman is more practical, and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The workshops include those of the Milliner and Dress-maker, Printing, Telegraph, Scroll-Sawing, Carving, Engraving and Industrial Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

**TUITION ABSOLUTELY FREE!**  
No contingent fees, except for use of pianos and organs. Boarding ranges from \$2.75 to \$4.00 per week.

**CALENDAR:**—Winter Term began Wednesday, January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

J. A. Anderson, President.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, MARCH 18, 1876.

No. 48.

## THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

### Report of the Farm Department for the year Ending Nov. 30, 1875.

To the Regents of the Kansas State Agricultural College:

GENTLEMEN: Allow me to call your attention to the following outline of the work of the Farm Department for the year ending November 30, 1875:

In addition to my duties as Farm Superintendent, I have during the year past taught classes in practical agriculture and physiology, and delivered a course of lectures in dairy practice to an advanced class of young ladies.

Of the course in practical agriculture and physiology, I need say no more, perhaps, than that it is substantially as laid down in the Hand-Book of the College. The constant aim has been to make these studies practical in every sense. Thus in practical agriculture the discussion of theories doubtful and otherwise has been omitted, and such topics taken up as are recognized among practical men as "the best experience of the best farmers."

In my course of instruction in physiology and hygiene the constant aim has been to give it a practical bias. Useful knowledge—such knowledge as would lead to correct habits of body and mind, rather than matters curious or purely disciplinary, have fully occupied the time given to this study.

Agreeable to the general policy of the Institution, at the opening of the present term I commenced a course of lectures on practical dairying, embracing such topics as "Influences Affecting the Quality and Quantity of Milk;" "Treatment of Milk in the Creamery;" "Butter Manufacture;" "Treatment of Rennet;" "Cheese Manufacture in the Factory and Farmhouse;" and related topics. This course of instruction, the first of the kind taught in the College, if not in the West, was in the outset something of an experiment. It is pleasant to remember of the work, that its experimental character ceased with the trial. In the progress of this work, the want of a dairy-house and proper appliances for actual practice has been most keenly felt. Aside from this fact, the simple matter of economy will suggest the necessity for dairy conveniences for properly utilizing the milk of our rapidly increasing herd of cows. I respectfully refer you to the plans and specifications of a dairy-house suitable to our wants, now in the hands of your secretary. With the development of the work thus begun, we shall have taken a long stride in the direction of solving the question as to woman's place in the industrial world.

#### THE FARM.

The season just past has been in this locality one of unusual severity. The remark-

ably dry season of 1874 has been followed by a winter and spring during which the rainfall was exceedingly light and insufficient. As a result, the crops have suffered from the drouth from the very outset. When to this is added the ravages of the grasshoppers in the spring and early summer, the cause of the light crop of 1875 in this locality will be easily understood. To particularize, our winter wheat passed through the winter without suffering material injury, and up to the middle of May promised a large yield. About that time the grasshoppers ruined six acres outright, and from thence till harvest-time the remainder suffered so severely from the dry weather, that the average yield was less than ten bushels per acre of inferior grain. Substantially what has been said of the wheat crop, may be said of all the crops upon the College farm the present season, with the partial exceptions of corn and millet. This will be plainly shown by the average yield per acre of the different crops, as follows: Corn, twenty-seven and one-half bushels; wheat, winter, nine and one-half; oats, —; barley, thirteen and three-quarters; mangel wurzels, three hundred and twenty bushels; millet, two and one-half tons. A very promising crop of timothy upon a field of seven acres was cut to the ground in the month of May.

STOCK.—Since my last report there has been a very considerable increase of the live stock belonging to the department, both by purchase and in the natural way, chiefly the latter. The Shorthorn cow, Grace Young 4th, has added to the herd a very handsome deep red heifer calf, and Grace Young 5th, a bull calf. The Jersey cow, Duchess, within a year has dropped two valuable heifer calves, and the Galloway cow, Rebecca, and each of the Devon cows, Maud and Lily Dark, have brought bull calves. A total gain by natural increase of seven pure-bred animals.

By purchase we have added to our herd a Galloway bull, bred by J. N. Smith, of Lansing, Michigan, and seven pure-bred swine, four Berkshires and three of the Essex breed. Two of the Berkshire "gilts" are from the famous breeding establishment of John Snell's Sons, Edmonton, Canada, and the boar and sow remaining were bred by N. H. Gentry, Sedalia, Missouri. It is worthy of remark, as showing the value of this stock, that the sire of the imported "gilts" recently sold for seven hundred dollars. Of the Essex pigs, the boar was bred by the Michigan State Agricultural College, and the two "gilts" by Norman Eastman, Humboldt, Kansas. These latter are from stock bred by Jos. Harris.

The demand throughout the State for breeding animals of the College stock has been very great, greatly in excess of the supply, in fact, and considerable sales at fair prices have been made. I have to report a total of cash sales amounting to \$993.70, of cattle and swine alone. Of this amount \$649 was received for breeding animals sent to different parts of the State. This whole stock account seems to me to be

exceedingly suggestive, for while our cereal crops have generally been cultivated at a loss, our live stock has paid a handsome profit, in proof of which I subjoin the following brief statement:

STOCK ACCOUNT.	
Dr.	Cr.
To cash.....\$1,286 79	Cash..... 993 70
	Increase..... 426 00
	Labor..... 297 08
	\$1,716 78

At the present time the College owns eighteen head of pure-bred cattle, divided among the different breeds, as follows: Shorthorns 6, Devons 6, Jerseys 3, Galloways 3.

BUILDINGS AND FENCES.—The occupation of the original farm barn by the literary departments of the College compelling, as it did, the construction of new sheds and stables for the stock, as well as granaries, corn cribs and yards, has added immensely to the work of my department during the year. By carefully utilizing such rough lumber as could be found about the farm, including two old fences, we have succeeded in putting up a stable 30x80 feet, having accommodations for thirty head of cattle and six horses, and capacity for fifteen tons of hay. The cost of this building at date is \$173.09.

The insufficiency of this building for a herd of valuable animals will be admitted by all acquainted with the wants of such animals. Without going into details here as to what such wants seem to be, I respectfully ask your attention to the drawings of a barn suitable to the wants of a farm of this size, now in the hands of your secretary. We also have removed and put up anew one hundred and twenty rods of portable fence, and made eighty rods of new wire fence. The great need of the College farm is fences sufficient to divide the entire farm into fields of fifteen acres or less. Such fences would greatly lessen the expense of keeping the stock, as by them we should be enabled to pasture every field upon the farm, and utilize the aftergrowth of the different crops.

Through Mr. J. H. Purinton, of Junction City, Kansas, we have received of Messrs. D. M. Osburn & Co., Auburn, N. Y., one of their combined mowers and reapers, of the Kirby pattern. During the season we have given this machine a very severe trial upon the College farm, and I am prepared to speak advisedly of its merits. Without the actual test of the dynamometer, I am unable to speak accurately of the draft of this machine, but am satisfied from its effect upon the laboring team that it will compare favorably in this respect with the Buckeye and other standard machines. The point, however, with the Kirby, is the perfection of its work, and that indifferently in very short, thin straw, and that which was long, twisted and lodged. Grain, which was so short and thin that our other machines failed to cut one-half of it, was cut perfectly by the Kirby, and laid aside in gavels as symmet-

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, MARCH 18, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## Sheep Husbandry in Kansas.

Perhaps there is nothing so anomalous in Kansas agriculture as the general absence of wool-growing, pursued either as a speciality or a part of general farming. Mr. Alfred Gray, in his report for 1875, tells us that even the small number of sheep, 106,224, now held in the State seems to be diminished, there having been reported 2,864 less in 1875 than in 1870. This seems all the more astonishing when we consider the generally enterprising character of our farmers.

They have labored hard, and against inexperience and lack of manufacturing facilities, to make flax and the castor bean prominent objects of cultivation; and they are already talking very earnestly of importing worms and mulberry trees and going into silk raising on a large scale. We have watched this last experiment with no little curiosity, especially since we have noticed in late files of Japanese papers that in the oldest of the silk-raising States, where skilled labor costs almost nothing, the business has of late been far from remunerative. Moreover, the Japanese government itself has lately imported a large number of sheep, and is about to establish schools for the teaching of sheep husbandry in different parts of the empire.

In view of the general absence of wool-growing in Kansas, the inquiry very naturally arises

IS KANSAS NATURALLY A WOOL-GROWING STATE?

We answer unhesitatingly it is! In many respects our climate is all that could be asked for sheep raising; its dryness, and general freedom from long continued driving sleet and rain storms, insures the Kansas wool-grower against what in the East is not only a source of disease, but often involves all the lambs of a season in destruction.

The vast stretches of country found all over Kansas, known as "divides," are almost ideal sheep-walks. It is no exaggeration to say that more grass is grown annually upon an acre of these Kansas lands, than upon five acres of the famous sheep-walks of California or Australia. That the quality of these grasses is very good will be questioned by no one at all familiar with them. The abundance and purity of the water of Kansas, and the absence of mire and bog; the excellent protection afforded by the numerous bluffs and clumps of timber, are advantages that the sheep husbandman will readily recognize.

Now all these advantages are to be had

for the taking. These lands are owned mainly by the government or the railroads, and that they will remain thus for many years to come few doubt; to get the use of them without tax or incumbrance, it is only necessary to occupy them. For the young man of moderate means, who, to a taste for stock, and especially sheep, adds diligence and patience, we know of no opening so promising, no business that so quickly and certainly offers satisfactory results.

The question may occur to some is there a DEMAND FOR WOOL AND MUTTON in Kansas and if so is this demand likely to be maintained? To the first part of this query the general markets of the country are a sufficient reply. It is found profitable to ship corn and wheat to eastern markets and certainly if these bulky, heavy articles will bear long transportation, this lighter and more valuable product of our flocks will not be excluded from the great markets of the world. But we have abundant reasons for knowing that the present number of sheep in Kansas is totally inadequate to supply the home demand for wool and mutton.

The proprietors of the Blue Rapids Woolen Mills, Messrs. Cook, Chandler & Barlow, write us that during the past season the market has been very uniform. They say, "We have paid for good-conditioned, light, unwashed wool twenty-eight to thirty cents per pound. For very nice lots we have paid more. The average cost of unwashed the past season has been over thirty cents. We get very little fleece, washed or tub, and the condition varies so much that we cannot well quote, but for good or ordinary tub-washed have paid fifty cents per pound." "We have manufactured about 100,000 pounds of unwashed wool, 38,328 pounds of which came from Colorado, the balance from Kansas and Southern Nebraska. Probably about one-half of the amount used was from this State."

As to the demand for mutton, it is a well-known fact that the butchers in the towns west of Topeka are not able to supply their customers with mutton at reasonable prices except at rare intervals.—[Prof. Shelton.]

WE call the attention of our readers to the advertisement of S. R. Trumbull & Co., San Francisco, California, appearing in to-day's issue. Their seeds are the best, at the lowest prices. We know this, having tried them upon the College Farm.

WHEN the ubiquitous tree peddler comes to you this spring with that old familiar story, illustrated with those flashy-colored pictures of fruit, remember that if your ground has not been prepared by cultivation and you are not situated to take care of them and give them culture and care, don't buy

them. We believe as much money has been uselessly thrown away in tree culture of one kind and another as the indebtedness of the State amounts to. Putting out large orchards to die of neglect, selecting varieties that experience has proved will fail, is too common to bear a repetition here. This one fact, however, is so clearly proven by expensive experience in Kansas, and each year sees it so entirely ignored that we believe it will pay to state it every week. It is that trees of all kinds need culture to make them grow, even if carefully planted.—[Kansas Farmer.]

To this we will add that traveling peddlers selling trees from unknown nurseries should not be patronized at all, for the purchaser is very apt to be swindled. The fact that you may know the agent don't help matters much. It is essential to know both the agent and the parties he sells for.—[Nationalist.]

## An Act

To authorize the Board of Regents of the State Agricultural College to use the endowment fund of said College for the purpose of paying taxes on and redeeming from sale lands heretofore sold by said College which have been sold for taxes.

Be it enacted by the Legislature of the State of Kansas.

SEC. 1. That the Regents of the State Agricultural College are hereby authorized to use of the endowment fund of said College a sufficient amount to pay taxes due on lands heretofore sold by said College and where lands so sold have been sold for taxes to redeem the same from sale.

SEC. 2. This act shall take effect and be in force from and after its publication in the Commonwealth.

Approved March 3, 1876.

I, Thos. H. Cavanaugh, Secretary of State of the State of Kansas, do hereby certify that the foregoing is a true and correct copy of the original enrolled bill on file in my office.

In testimony whereof, I have hereunto subscribed my name this 3rd day of March, A. D. 1876.

[L. S.] THOS. A. CAVANAUGH,  
Secretary of State.

**Special for Woman.**—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc.

**California Grown Alfalfa Seed.**

IN QUANTITIES TO SUIT.

At from \$14 to \$16 gold coin (or its equivalent in currency) per one hundred pounds.

Extra sacking and drayage about fifty cents per one hundred pounds extra.

VEGETABLE

AND

FLOWER SEEDS

In extensive variety sent by mail anywhere at the lowest rates.

**FREE** TO APPLICANTS! My "Guide," containing lists and prices of seeds, together with "History and Culture of Alfalfa," etc.

(48-3m) R. J. TRUMBULL,  
(419 & 421 Sanson St.) San Francisco, Cal.



# THE INDUSTRIALIST.

SATURDAY, MARCH 18, 1876.

## WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, March 15th, 1876.

DAY.	Temperat'e			Bar'tr	Wind.		State of Weather
	Max.	Min.	Mean		Dir-ec-tion.	Veloc.	
Thursday...	54°	26°	32.2	59.951	N-W	22	Cloudy
Friday.....	28	15	21.0	29.873	N-W	18	Lt R'n
Saturday....	24	10	18.5	30.269	N-W	12	Fair.
Sunday.....	26	6	18.7	30.416	N-W	12	Clear.
Monday.....	55	18	44.7	30.009	S-W	26	Fair.
Tuesday.....	57	39	46.7	29.766	S-W	24	Cloudy
Wednesday..	44	25	30.0	29.664	N-W	42	Lt R'n

Rain-fall in inches, .43.

HARRY F. MCFARLAND,  
Serg't Signal Service.

School Bonds wanted. See advertisement.

Number of students enrolled this term 189.

The weather this week has been more like winter than spring.

Prof. Wm. K. Kedzie is rapidly recovering, and will be on hand before many days.

All the classes are driving along at full speed, and doing good work. Everybody is more than busy, and the term will be out before we know where we are.

Capt. Todd has just finished a large combination molding, carving and sawing machine, for wood work, which attends to business in the strictest manner and greatly reduces that kind of labor. It is a valuable addition to the shop.

The Mechanical department is doing a greater variety of work than one would suppose by simply strolling through the shop. Several jobs of wood and iron turning for parties in Manhattan have recently been done at satisfactory rates and in a satisfactory manner, and when it comes to sawing heavy brackets for cornices or other ornamental work we can beat market rates.

The Farm Department has recently sold to Mr. E. Huse, of Ashland, the somewhat noted Shorthorn bull, Zenas King, lately at the head of the College herd. This young bull, at sixteen months, weighed the enormous weight of 1650 lbs., said to be as good weight as ever made at that age. Mr. Huse is most fortunate in this purchase, and we congratulate the people of Ashland upon this acquisition to their live stock.

Governor Osborn has appointed April 1st as a State Arbor-day. It takes but little labor or expense to plant trees, compared with the lasting benefit and pleasure they afford. Where the summers are as hot and glaring as ours, either as a question of personal comfort, or as an act of benevolence in giving pleasure to those who shall follow us, every man can afford to spend one day in this work. It is probable that no official act of our executive will be found in coming years to have ensured greater benefit or attractiveness to Kansas than this, if the suggestion be generally followed. We are glad to see that Mayor Higginbotham is making arrangements to have Manhattan thus beautified.

This week's Nationalist contains the following College items:

Mrs. Cripps commenced, this week, to deliver to her class of ladies, lectures on the Laws of Health. This class began last term, and first received lectures on Farm Economy, from Prof. Shelton; these were followed by lectures on Household Chemistry by Prof. Kedzie; and these, in turn, by those of Prof. Gale on Gardening. The series now begun by Mrs. Cripps finishes the course.

Madame Bergman, Regent of the Mt. Vernon Ladies' Association, says, in reply to a note informing her of the amount raised for their benefit by the entertainment on the 22nd of February, that they feel greatly indebted for the interest shown in the cause by this place, and she suggests

that the money be applied to the payment of the debt incurred in restoring the barn built by Washington, and which was rebuilt last summer at an expense of \$1,000, only one-half of which sum has yet been raised.

## Students' Column.

The Diagnothean Society elected the following officers last week: \* President, T. C. Hulett; Vice-President, Miss Julia Rogers; Secretary, Miss Ella Thompson; Treasurer, Miss Jennie Mails; Marshal, S. H. Stockwell.

At the meeting of the Webster Society last Saturday evening, M. F. Leasure was elected President of the society for the remainder of the term; Vice-President, Charles Huston; Secretary, C. F. Travelute; Treasurer, T. C. Hulett; Librarian, A. R. Oursler; Critic, W. Harmon; Marshal, George Whitney.

Notwithstanding the inclemency of the weather on last Friday afternoon, as many members as usual were present at the session of the Alpha Beta Society. It being the regular time, the society elected officers as follows: President, George A. Gale; Vice-President, Miss Minnie Whitman; Recording Secretary, C. M. Grover; Treasurer, Miss Nellie Sawyer; Marshal, George H. Failyer. Under the order of debate, the following question was discussed and decided in the negative: "Resolved, That it would have been better for the African race if they had never been brought to this country." The question was discussed with a great deal of earnestness, and the speakers, in order that the judges might better understand them, indulged in syllogisms to quite an extent.

Under miscellaneous business a vote of thanks was tendered to President Anderson for a copy of the Annual Report of the State Board of Agriculture, which he presented to the society. A committee was also appointed to consult with the President in regard to having an entertainment at the end of the term.

Miss Whitman favored the society with a select reading which was well rendered. Miss Sikes and Mr. Foster read interesting essays, entitled respectively, "Sunshine and Shadow" and "Discouragements." After assignment of duties for following week the society adjourned.

REPORTER.

Dr. Patee.

20-4f

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

Physician and Surgeon.—L. J. Lyman, M. D. Prompt attention given to calls, day or night. Office and residence No. 27, Poyntz Avenue, Manhattan. 37-3m

Bookseller and Stationer.—S. M. Fox, dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127, Poyntz Avenue, Manhattan. 37-3m

Standard Stock! Standard Work!! Standard Prices!!! Anything in the line of Printing and binding done as well as any where in America, at the Kansas Publishing House, Topeka.

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A winter stock just received. Opposite post-office, Manhattan. 37-3m

The Kansas Publishing House and Blank Book Manufactory, Topeka, Kansas. Book and Pamphlet Printing. Blank Books for every possible use. Geo. W. Martin, Proprietor.

Gardening for Profit!—Instruction and Drill in Kansas Horticulture. The Nursery, Orchard, Vineyard, Vegetable Gardening, Flower and Landscape Gardening. Kansas Forest Culture a specialty. Seventy acres devoted to experimental apple, pear and peach Orchards, Vineyards, Nursery, and Gardens.

A Thorough and Direct Education, at the Kansas State Agricultural College, for the Farm, Orchard, Shop and Store. Tuition Absolutely Free! The winter term began Wednesday, Jan. 5, and closes Wednesday, May 24, 1876.

Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing, Painting. The Department is well equipped with tools and machines for the student's use.

Webster Society of the Kansas State Agricultural College. Organized, October 12th, 1868; chartered, January, 1871. Motto: "Labor Omnia Vincit." Meets Saturday evening each week. M. F. LEASURE, President. C. F. TRAVELUTE, Secretary.

Alpha Beta Literary Society.—Organized, October 17, 1868; chartered, December 26, 1870. The Society holds its sessions, in the College building, every Friday afternoon at two o'clock. Both ladies and gentlemen admitted. Visitors always welcome. GEO. A. GALE, President. C. M. GROVER, Secretary.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill, by an experienced operator, in sending, receiving, office accounts, reports, and telegraphic book-keeping. No charge, except for blanks; say \$3 per Term. Special course of lectures by Prof. Kedzie on electricity, battery, etc.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

The College Farm keeps on hand and usually for sale specimens of Shorthorn Galloway, Jersey and Devon Cattle, and Essex and Berkshire Swine. We offer for sale one yearling bull and one two-year-old Devon bull, and two Devon cows respectively three and four years old. All imported from Canada. Price, each, \$100. Address E. M. Shelton, Sup't Farm.

Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

County and District Official School Record Books, by Prof. S. A. Felter. Conforming strictly to the Revised School Law of the State of Kansas, the recommendations of the National Teachers' Association, and the requirements of the National Bureau of Education, of Washington, D. C. Approved by the State Superintendent of Public Instruction. Manufactured exclusively by the Kansas Publishing House, Topeka.

The Annals of Kansas.—By Daniel W. Wilder, now ready for delivery. This book contains 691 pages. It is a Kansas Dictionary. It has double the amount of reading matter contained in Sherman's Memoirs, and three times as much as the thirteenth volume Kansas Supreme Court Reports. Price, postage prepaid, \$5.00. Orders solicited. Cash must accompany each order. 30-4f GEO. W. MARTIN, Publisher.

School District Bonds.—Several thousand dollars in School District Bonds wanted March 1st, for which the highest prices will be paid. Those direct from District Boards will always have the preference. In all cases, copies of all papers relating to the issue of the bonds must be forwarded, duly certified to by the district clerk. Blank bonds filled out ready for signature when desired. For prices and blanks, address E. GALE, Loan Commissioner, Manhattan, Kan.



[Concluded from first page.]

rically as though each straw had been placed by hand. Its operations in lodged grain were quite as satisfactory as in the very short. Of its strength and durability as a whole, I can speak only after a time. Its parts are very strong and well finished, and from the exceeding smoothness of their running, I should argue for the Kirby a long life, with even ordinary treatment. This Kirby, with a cornsheller and a few small tools, makes the total of appliances placed upon the farm since my last report.

**EXPERIMENTS.**—A considerable number of varieties of grasses and forage plants, as well as grains, have been planted in the proper season. However, from the severity of the season and the ravages of insects, I am able to report upon the condition of only a small number of those planted. Timothy grass, seeded upon seven acres of ground, has taken well over a large portion of the field, and at this writing seems uninjured. But the most promising of all the forage plants that we have thus far grown is alfalfa, or lucerne, as it is variously called. We seeded the first week of April, of California seed, at the rate of twenty pounds per acre, upon one and one-half acres of land. The seed germinated, to all appearances, perfectly, and the plants made a continuous growth, and entirely occupied the ground, giving it the appearance of a greensward until the severe frosts set in. Three months after the seed was sown, I obtained plants having tap roots fourteen inches in length. Our experience with this plant seems to warrant its cultivation on a larger scale another year, and after consultation with your executive committee, our plans for another season have been made to include the seeding of at least six acres to alfalfa.

The Wicks wheat, obtained from Michigan, and sowed upon one and one-half acres of land has been harvested the past season. This wheat was treated in every respect the same as the Kansas varieties grown, and gave a yield of twelve bushels per acre, nearly one-fourth more than the average yield of the native varieties.

From the department at Washington I have received considerable invoices of seeds from time to time. Of these we have seeded this fall plats to Clawson wheat and white winter rye, and next spring with your consent shall commence a series of experiments with spring grains.

#### FINANCIAL STATEMENT.

Total expenditures of the Farm Dep't for the year ending Nov. 30, 1875..... \$2,145 53

#### DISTRIBUTION.

Permanent improvements..... \$ 497 34  
Crop of 1875..... 1,648 19

Total..... \$2,145 53

#### PERMANENT IMPROVEMENT ACCOUNT.

Stock barn.....	\$173 09
Repairs buildings and fences.....	100 02
Digging well.....	41 00
Implements.....	62 92
Barn-yard, including platform scales.....	53 41
Office and classes including herd books.....	29 46
Experimental grasses.....	37 41

Total..... \$497 31

#### CROP OF 1875—ACCOUNT.

	Dr.	Cr.
To cash.....	\$1,648 19	
Sales of stock.....		\$993 70
Sale of grain and produce.....		235 50
Value and increase of live stock.....		426 06
Value of hay and grain on hand.....		97 00

Total..... \$1,648 19 \$1,752 26

Respectfully submitted.

EDWARD M. SHELTON,  
Prof. Prac. Agricul. and Sup't Farm.

**Township Books.** Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

**Kansas Publishing House.**—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

**Telegraphy.**—Four miles of line, twenty-five line instruments, and daily instruction and drill, by an experienced operator, in sending, receiving, office accounts, reports, and telegraphic book-keeping. No charge, except for blanks; say \$3 per Term. Special course of lectures by Prof. Kedzie on electricity, battery, etc.

**Special for Woman.**—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc.

**Farming for Profit!**—Special courses in Kansas Practical Agriculture. Simple Tillage, Farm Implements, Comparative Physiology, Stock Breeding, Mixed Husbandry, Rotation of Crops, Manures, Feeding, Buildings. Apparatus illustrating the course in Practical Agriculture consists of a farm of one hundred and eighty-five acres, well provided with the modern improvements in implements and machinery. A fine herd of Shorthorn, Devon, Jersey and Galloway cattle; and Berkshire and Essex pigs.

**Chemistry and Physics.**—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography, Household Chemistry. Special course in Chemistry for Post-Graduates. The Laboratories are fully furnished with the best philosophical apparatus and the largest assortment of chemical apparatus and reagents west of the Alleghenies, all of which is for the use of the students.

#### Printing! Printing!! Printing!!!

Daily Drill in the work of a

#### FIRST-CLASS PRINTER.

The Literary Departments offer a thorough education in the construction and use of the English Language, as employed by the Proof-Reader; in Book-Keeping; and in Industrial Drawing, as the best developer of that Taste necessarily exercised by every good Job Printer.

#### THE PRINTING DEPARTMENT

is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer.

Besides regular class instruction in printing, the weekly publication of the Industrialist by the Department furnishes advanced students the requisite drill in newspaper work.

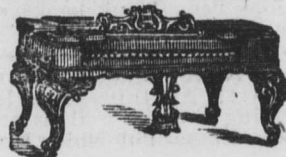
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559 Main Street, Kansas City, Mo.

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General Agents For

#### DECKER BROS.,

The Popular

"New Scale Haines" Pianos,

And The

Matchless Burdett Organs.

Our Pianos and Organs are recommended by the Profession generally to be the best that American skill has yet produced, and we guarantee that the price will be as low as any one can possibly ask. We are now selling full seven-octave Pianos for \$275, cash. Correspondence solicited, and catalogues mailed.

25-6m

## KANSAS STATE AGRICULTURAL COLLEGE.

#### Board of Regents.

M. J. SALTER, Chairman, Thayer, Neosho Co.  
N. A. ADAMS, Sec'y, Manhattan, Riley Co.  
JAS. ROGERS, Burlingame, Osage Co.  
B. L. KINGSBURY, Burlington, Coffey Co.  
JOHN H. FOLKS, Wellington, Sumner Co.  
J. LAWRENCE, Beloit, Mitchell Co.  
J. A. ANDERSON, Manhattan, Riley Co.

E. B. PURCELL, Treas. L. R. ELLIOTT, Land Agent.  
E. GALE, Loan Commissioner.

#### FACULTY.

J. A. ANDERSON, Pres. and Prof. Polit'l Economy.  
M. L. WARD, Prof. Mathematics.  
J. S. WHITMAN, Prof. Botany, Entom., and Geol'gy.  
WM. K. KEDZIE, Prof. Chemistry and Physics.  
E. M. SHELTON, Prof. Prac. Agricul., Sup't Farm.  
E. GALE, Prof. Horticulture and Sup't of Nursery.  
J. E. PLATT, Prof. Elem'y English, Mathematics.  
A. TODD, Sup't Mechanical Department.  
A. A. STEWART, Sup't Printing Department.  
W. C. STEWART, Sup't Telegraph Department.  
MRS. M. E. CRIPPS, Sup't Sewing Dep't.  
MRS. M. L. WARD, Teacher of German and French.  
MRS. H. V. WERDEN, Teacher of Inst'm'l Music.

**THIS** College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

#### FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life.

The Farmer's Course is the leading one of the Institution. In the other courses, the special studies are equally determined by the requirements of the proposed vocation.

#### MECHANIC'S.

To Mechanics, in addition to those studies of the Farmer's Course which are useful to the student in his proposed vocation, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

#### WOMAN'S.

The course of study for woman is more practical, and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The workshops include those of the Milliner and Dress-maker, Printing, Telegraph, Scroll-Sawing, Carving, Engraving and Industrial Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

#### TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs. Boarding ranges from \$2.75 to \$4.00 per week.

**CALENDAR:**—Winter Term began Wednesday, January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

J. A. Anderson, President.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, MARCH 25, 1876.

No. 49.

## THE INDUSTRIALIST.

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PRINTING DEPARTMENT.

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### State Agricultural College.

The Legislature finally decided to appropriate for the State Agricultural College as follows: \* \* \*

President Anderson and his colleagues are to be congratulated on having received this practical evidence of approval from the representatives of the people.

He says: "With respect to the objections made against the policy which has been followed in this Institution for the past two years, we have invariably found that they came from one of two classes: First, those who know nothing whatever about the actual work of the College; or, second, those who, having received a professional education, fancy that a farmer must study precisely the same things that the professional man does; in other words, that the masses must be educated for the learned professions. It is an easy matter to pass judgment under such circumstances, and the less one knows of the difficulties of furnishing an education that will have a cash value to the working classes the less is he bothered in making an oracular decision."

It is a fact which even the majority of people in Pottawatomie county have yet to appreciate, that this humble Agricultural and Industrial College, with its free tuition, is the only school in the West where a young man or woman can go and receive an education in harmony and conjointly with the trade or calling chosen as a means of self-support. There are plenty of colleges for the production of finished lawyers, polished doctors and for the special formation of cultured do-nothings, but there is only one College for the education, building up, of polished mechanics and intelligent farmers, only one poor man's school where he can be allowed to spend the little time at his disposal on studies which will immediately aid him in the bread-winning which must soon become his daily occupation. That is this excellent State Agricultural College at Manhattan. If any one doubts this statement let him send for and read a copy of the College Hand-Book, and should he desire to see the theories therein explained beautifully carried out, let him visit the College and see the noble work, now just started there. Seeing is believing.—[Wamego Blade.]

### Alfalfa.

Mr. B. F. Akers, of Lawrence, who is now in California, writes to Colman's Rural World as follows:

"After two months' residence in this State, in which time I have taken particular care to gather all the information possible regarding the culture of alfalfa, the following is the result of my observations: I am well satisfied that it will do as well in

Kansas and Missouri, also the Indian Territory, as here. It averages from six to ten tons to the acre, according to the locality, and where it can be irrigated, of course produces the most. The amount of hay produced per acre in some parts of California is almost incredible. For instance, Mr. E. J. Baldwin, the millionaire, informed me that a piece of land near Los Angeles produced eighteen tons to the acre in one year.

But one thing is to be considered: it grows all the year, and in southern California can be harvested nearly every month in the year, where they can irrigate it. It does fine in sandy loam. The valleys of the Kansas, Missouri and Arkansas rivers are well adapted to alfalfa culture. It does not do well on gumbo or clay land, but must have loose ground for its long tap root. Here it kills out all weeds and takes full possession. I send you some specimens cut to-day—also some burr clover, a grass that does well here, and is much liked. I propose to try it in Kansas.

One thing I am satisfied of; that is, if Kansas could get alfalfa well started through the State, the drought would lose its terrors, as the long root going down ten or twelve feet, gathers plenty of moisture the driest seasons we may have. On my return I shall bring some seed home, and shall be prepared to furnish at cost price, in small quantities, to farmers where I am satisfied they are not buying to sell again."

### An Act

Making Appropriations for the State Agricultural College.

Be it enacted by the Legislature of the State of Kansas:

SECTION 1. The following sums are hereby appropriated out of any money in the treasury not otherwise appropriated, to be used under the direction of the Board of Regents of the State Agricultural College: For material and equipment of chemical department, five hundred dollars; for fencing, five hundred dollars; for seeds and experiments, two hundred dollars; for printing department, two hundred dollars; for woman's industrial department, five hundred dollars; for two privies, three hundred dollars; for moving blacksmith shop, one hundred dollars; for finishing college and mechanical building, one thousand dollars; for laboratory building, eight thousand dollars; for horticultural and botanical building, four thousand dollars.

SEC. 2. The Auditor of State is hereby authorized to draw his warrants upon the Treasurer of State for the purposes and amounts specified in the first section of this act, on an itemized statement of the Regents: Provided, That no debt shall be contracted or liability created beyond this appropriation for which the State shall be liable.

SEC. 3. This act shall take effect and be in force from and after its publication once in the Kansas Farmer.

Approved, March 2d, 1876.

I, Thomas H. Cavanaugh, Secretary of

State of the State of Kansas, do hereby certify that the foregoing is a true and correct copy of the original enrolled bill on file in my office.

In testimony whereof, I have hereunto subscribed my name this 3d day of March, A. D. 1876.

[L. s.] THOS. H. CAVANAUGH,  
Secretary of State.

### The Normal to be Continued.

At a meeting of the Board of Regents yesterday the following preamble and resolutions were adopted, providing for the continuance of the Normal School until the close of the current school year:

WHEREAS, By the action of the Legislature in refusing appropriations for the State Normal School, the Board of Regents have no means of carrying on the school and are by the same action expressly prohibited from making promises for the future; and,

WHEREAS, We deem it desirable to continue the school and graduate the present senior classes, therefore

Resolved, That the executive committee be authorized to invite such teachers as are now employed to retain their positions until the close of the current school year, and the Board agree to pay over to the teachers, pro rata, on basis of present salaries, any money that may remain after meeting necessary expenses for janitor and heating building.

Resolved, That a tuition fee of \$5 per term for the preparatory year and \$7 per term for more advanced studies be charged, and also an incidental fee of \$1.

Resolved, That the principal of the training school be also invited to remain and that she be allowed the receipts from her department, charging at the rate of \$3 per scholar, after the current expenses of stone building are met.—[Emporia Ledger.]

### An Argument for Protecting the Birds.

"In 1873," says M. de Lautrie, "I took five little sparrow-hawks from a high tower and put them in a cage on the balcony. The parent birds immediately brought them food, and I was not surprised to see that this food consisted of twelve mice, four large lizards and six mole crickets. A meal of like size was brought every day for a month. At one time there were fifteen field mice, two little birds and a young rabbit. Last year I made the same experiment with the same general result, one meal consisting of twelve young nightingales, one lark, three moles and one hedgehog. The parents always ate the heads of their prey, and picked from the bodies of the dead birds some of their feathers. In the case of the hedgehog the only part not eaten by these voracious little creatures was the skin of the back, which was too much for their maws. In one month the five baby hawks rid the world, by actual count, of four hundred and twenty rats and mice, two hundred mole crickets and one hundred and fifty-eight lizards. Were not the twelve poor little nightingales and the lark well paid for?"



# THE INDUSTRIALIST.

SATURDAY, MARCH 25, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## The Kirby.

In the annual report of the Superintendent of the Farm to the Legislature, given in our last number, was a statement in regard to the Kirby mower and reaper which may be of service to the farmers of the State. We therefore reprint it, as many would overlook it in the full report.

We can say this much respecting the worth of Prof. Shelton's testimony. Besides being a thoroughly practical farmer, he keeps on the inside of the line of certainty in all his statements; and the following means all that it says, and more than it would mean if said by gentlemen of the enthusiastic sort:

Through Mr. J. H. Purinton, of Junction City, Kansas, we have received of Messrs. D. M. Osburn & Co., Auburn, N. Y., one of their combined mowers and reapers, of the Kirby pattern. During the season we have given this machine a very severe trial upon the College farm, and I am prepared to speak advisedly of its merits. Without the actual test of the dynamometer, I am unable to speak accurately of the draft of this machine, but am satisfied from its effect upon the laboring team that it will compare favorably in this respect with the Buckeye and other standard machines. The point, however, with the Kirby, is the perfection of its works, and that indifferently in very short, thin straw, and that which was long, twisted and lodged. Grain, which was so short and thin that our other machines failed to cut one-half of it, was cut perfectly by the Kirby, and laid aside in gavels as symmetrically as though each straw had been placed by hand. Its operations in lodged grain were quite as satisfactory as in the very short. Of its strength and durability as a whole, I can speak only after a time. Its parts are very strong and well finished, and from the exceeding smoothness of their running, I should argue for the Kirby a long life, with even ordinary treatment. This Kirby, with a cornsheller and a few small tools, makes the total of appliances placed upon the farm since my last report.

## VOTED APPLE LIST.

### What Varieties of Apples Shall We Plant?

To answer this question for Kansas as far as it can now be answered, the Experimental Committee of the State Horticultural Society have secured a vote upon a select apple list consisting of five varieties of summer, five varieties of fall, and ten varieties of winter apples, in reply to the following letter:

AGRICULTURAL COLLEGE,  
Manhattan, Kas., Jan. 15, 1876.

DEAR SIR:—Please give us upon the inclosed card the names of those varieties of apples (five summer, five fall and ten winter) which you now regard as the most desirable, all things considered, for general

culture, placing the best apple of each season at the head of its respective list, and the others in the order of their comparative value.

Yours Truly,

E. GALE,

Ch'm'n Exper. Com. State Hort. Society.

Thirty-five reports have been received, to this date, from men who have had the most experience in fruit culture and the best opportunities for extended observation. The inquiries were scattered as extensively as possible over the portion of the State east of the longitude of Manhattan, and the reports or votes may be regarded as fairly representing all parts of this region. These votes have in several instances been accompanied by valuable suggestions and facts in regard to different varieties and modes of treatment, which will demand the further consideration of the committee. As, for example, in a few instances an apple almost unknown has been placed nearly at the head of the list, or one rejected by experienced growers in one county or locality is highly recommended by one or two persons in another locality. Important questions in regard to soil and modes of culture are here involved which will require much time and careful investigation to answer. It is the purpose of the Experimental Committee to work out and settle questions of this nature in regard not only to the apple but other fruit, forest trees, shrubs and vegetables.

To illustrate the reading of the table, take the Early Harvest which received in all thirty-two votes out of the thirty-five. Ten placed it first on the list; nine put it second; and thus to the fifth place, and to the tenth in the case of winter apples.

## SUMMER APPLES.

NAMES OF APPLES.	No. votes.	Put it 1st.	Put it 2d.	Put it 3d.	Put it 4th.	Put it 5th.
Early Harvest.....	32	10	9	7	2	4
Red June.....	30	13	6	6	5	5
Red Astrachan.....	23	5	7	4	3	4
Cooper's Early White.....	14	3	4	2	2	3
Early Pennock.....	13	1	3	1	4	4
Am. Summer Pearmain.....	11	2	2	3	2	2
Benoni.....	9	1	1	1	6	3
Hightop Sweet.....	7	1	1	2	1	3
Duchess of Oldenburgh.....	4			1	2	1
Summer Rose.....	2		1	1	1	1
Harvest Red Streak.....	2			1	1	1
Lowell.....	2			1	1	1
Sops of Wine.....	2			1	1	1
Golden Sweet.....	2		1	1	1	1
Yellow or White June.....	2			2	1	1
Large Yellow Bough.....	2				1	1
Summer Queen.....	2				1	1
Keswick Codlin.....	2					2
Early Ripe.....	1	1				
Primate.....	1	1				
Frank.....	2		1	1		
Kirkbridge White.....	1				1	
Early Strawberry.....	1					1

## FALL APPLES.

Maiden Blush.....	33	18	7	4	2	2
Rambo.....	16	3	3	5	1	4
Fameuse.....	10	1	1	1	4	3
Lowell.....	9	4	2	1	2	
Fall Wine.....	7	1	1	4	1	
Wine (see winter list.).....	7	3	3		1	
Ortley.....	6			6		
Fall Pippin.....	3		1		1	1
Porter.....	3		2			
Fulton.....	4	1		1	1	1
Fulton Strawberry.....	2				2	
Autumn Strawberry.....	2					1
Ramsdell Sweet.....	2			1		1
Lady Washington (local.).....	2			2		
Gravenstein.....	3	1		1	1	
Autumn Swaar.....	3		2	1		
White Bell.....	1			1		

Striped Gilliflower.....	1		1			
Kansas Queen.....	1			1		
Mother.....	1		1			
Dyer.....	1			1		
Belmont.....	1		1			
Northern Spy.....	1				1	
St. Lawrence.....	1				1	
Hocking.....	1			1		
Twenty Ounce.....	1					1
Rhode Island Greening.....	1					1
Drap d'Or.....	1				1	
Jersey Sweeting.....	1					1
Bailey Sweet.....	1					1
Grammar's Pearmain.....	1					1
Gabriel.....	1		1			
Hawley.....	1				1	
Vandevere Pippin.....	2				1	1
Fall Winesap.....	1		1			
Talpahocking.....	1					1
Canada Red Streak.....	1			1		
Buckingham.....	1				1	

## WINTER APPLES.

Winesap.....	34	15	8	10	1				
Ben Davis.....	34	8	8	8	3	2			2
Jonathan.....	28	6	3	7	2	4	1	5	
Rawle's Genet.....	27	6	5	7	2	2	1		4
W. W. Pearmain.....	21	1	2	5	2	3	4	4	
Mo. Pippin.....	20	2	4	3	4	1	1	3	2
Willow Twig.....	16	2		3	2	2	3		2
Rome Beauty.....	14	1		2	2	7		1	1
Gilpin.....	13			3	2	4		1	2
Romanstem.....	11		2		3	1	3	2	
McAfee Nonsuch.....	10		1		1	3	1	1	2
Wine (see fall list.).....	5				1	1	1	1	1
Dominie.....	9	1	1	2		2	1	1	
Talman Sweet.....	8				1	1		1	4
Limber Twig.....	9					3	3		
Milam.....	7				1				1
Smith's Cider.....	7					2	1	2	1
Red Winter Pearmain.....	5				1			1	1
Ortley.....	5			1	1			1	1
Grime's Golden.....	4	1			1			1	
Sweet Romanite.....	4						2		2
Yellow Bellflower.....	4								1
Hubardston Nonsuch.....	4	1			1	1		1	
Wagener.....	3				1				2
White Pippin.....	3								1
Baldwin.....	3					1			1
Minkler.....	3	1				2			
Esopus Spitzenburg.....	3					2	1		
Stark.....	2				1				1
Pennock.....	1								1
Smokehouse.....	1				1				
Prior's Red.....	1				1				
W. Seekno further.....	3					1		1	1
English Golden Russet.....	1							1	
Swaar.....	1					1			
Newtown Pippin.....	1					1			
King of Tompkins Co.....	1							1	
Michael Henry Pippin.....	1				1				
Winter May.....	1						1		

It will be seen that we are venturing upon experimental ground when we plant more than twenty varieties of apples. The combined experience of the majority would favor planting for general purposes only about fourteen varieties in all. Our further selection of varieties will be with the minority, and should be made with the greatest care in regard to soil and other local conditions. In several cases one person has voted for an apple as belonging to one season, and another person as belonging to a different season. Locality and soil have had something to do with this, doubtless, as well as the fact that some apples belong to the last part of one season and the beginning of another. In these cases each apple will be found where the majority of votes has placed it, with the exception of two, (Wine and Ortley,) which have been retained on both the fall and winter lists. Hence, it will be well to note that these two varieties would have stood much higher on the list if they had been placed with either the fall or winter apples. The reason of this course was the fact that the vote on these apples for the different seasons was so evenly balanced that it seemed an injustice to place them as belonging exclusively to either list.



This table has been constructed for the immediate use of those who are planting apples trees, and desire to profit by the experience of others in fruit culture, an experience which if utilized will save the State many thousands of dollars.

While many facts connected with the climate, culture and soil of different sections of the State cannot be at once made available in connection with this list, at a future time this may be possible. Further votes yet to come in may slightly change the relative position of some varieties without materially affecting the list. Time and investigation will also modify it, in some respects, with reference to different sections of the State, as well as soil. In the meantime our only safe course is with the majority. For, as for example, if Shinn & Wier, of Bourbon county; Tipton & VanDeman, of Neosho and Allen counties; Brackett & Savage, of Douglas; Tanner & Stayman, of Leavenworth; and Snyder & Grubb, of Doniphan and Jackson counties; in the main agree upon a few varieties of apples, those few can be planted safely. But when an apple is recommended by only one, two or even three persons out of thirty-five, as coming within the list of twenty, the part of discretion will be to await further developments, for in many cases the test of trial has already been applied and the variety, for many localities at least, been found wanting in something which should discourage its culture. There are exceptions to this in the case of comparatively new varieties. These time will vindicate or reject as the case may be.

The original number of varieties asked for will be found at the head of each list and separated from the remainder by a line. The others named are retained so as to indicate how many persons thought any of them worthy of a place among the original five summer, five fall, or ten winter apples. This course will serve to answer questions frequently asked in regard to many varieties of apples, which under favorable conditions we should be glad to plant. For example, some one may desire to invest in trees of the Newtown Pippin; by a reference to the list he finds that only one person in thirty-five thought it worthy of a place in a list of ten most desirable varieties, and he even placed it as far down as the sixth on the list. Or another person is tempted, from old associations it may be, to plant a lot of Rhode Island Greenings, and by reference to the list he finds it among the fall apples with only one vote out of thirty-five, and that one gives it the fifth or lowest place. It will be seen that this list will thus at once discourage the planting of a number of varieties which men are now planting in large quantities throughout the State. It should be remembered that the men who have given us their vote have some of them already tested and rejected a large number of varieties which do not appear upon this list even with a single vote. So that the list as here given is not an expression of opinion in regard to the varieties named simply, but really of a much larger number not named at all.

I desire to express special obligations to the gentlemen who have so promptly given us their experience in such a form as to materially aid their brother tree-planters throughout the State.

E. GALE, Ch'm'n Exper. Com.,  
State Hort. Society.

## THE INDUSTRIALIST.

SATURDAY, MARCH 25, 1876.

### Time-table of the K. P. Railway.

#### PASSENGER ARRIVES.

Going East..... 10:45 A. M.  
Going West..... 3:47 P. M.

#### FREIGHT ARRIVES.

Going East..... 12:40 A. M., and 3:37 P. M.  
Going West..... 8:05 P. M. and 7:30 A. M.

Passengers with tickets are carried on freight trains between Topeka and Brookville.  
GEO. C. WILDER, Agent.

### WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, March 22nd, 1876.

DAY.	Temperat'e			Bar't'r	Wind.	State of Weather
	Max.	Min.	Mean	Mean Daily	Dir'c-tion. Veloc.	
Thursday....	30°	12°	22.7	29.893	N-W 20	Clear.
Friday.....	25	11	17.7	30.393	N-W 29	Fair.
Saturday....	29	7	22.7	30.321	S-E 25	Cloudy
Sunday.....	28	15	23.0	30.199	N-W 25	Snow.
Monday.....	20	4	11.7	30.214	N-W 6	Clear.
Tuesday....	30	10	24.5	30.166	S-W 8	Clear.
Wednesday..	35	25	32.5	30.256	N-E 10	Snow.

Rain-fall in inches, .76.

HARRY F. MCFARLAND,  
Serg't Signal Service.

School Bonds wanted. See advertisement.

Number of students enrolled this term 190.

In our list of students who have entered College, we neglected to mention the name of Mary B. Boley, Alleghany county, Pennsylvania.

We received a call last Tuesday morning from Mr. Wm. D. Arnett, of Jefferson county, Colorado, who is soliciting seed from the people here for the farmers of his country who suffered from the ravages of the grasshoppers, and find themselves destitute this spring of seed for a new crop. Mr. Arnett has various recommendatory documents from the Governor and other officials of Colorado, and from the Mayor and City Council of Denver. He was with the Bluemont Farmer's Club at its meeting on Monday evening, and wedoubt not the farmers of that organization contributed liberally to this good cause.

The College Farm offers for sale the nicely-bred Shorthorn bull whose pedigree follows:

COLLEGIAN.—Recorded in Vol. 15th, A. H. B.; calved, Oct. 23d, 1875; mostly red; sire, 3d Prince of Oxford, 12676.

1 dam, Grace Young 5th.....by Tycoon, 7339.  
2 dam, Grace Young 2d.....by Gallant Duke, 6749.  
3 dam, Grace Young.....by Imp. Fortunatus, 1564.  
4 dam, Cassy Young.....by Wellington, 2366.  
5 dam, Poppy.....by Tom Marshall, 1039.  
6 dam, Light Mary.....by Cassock, 3503.  
7 dam, Judith Clark.....by Imp. Goldfinder, (2066).  
8 dam, Young Mary.....by Jupiter, (2170).  
9 dam, Mary.....by Saladin, (1417).  
10 dam, Lucy.....by Meek Bull, (2288), &c.

It will be seen that this young bull belongs to the popular Young Mary sort. His dam, Grace Young 5th, sold at public auction in 1873 for \$1,080. Of his sire it will be sufficient to say that he belongs to the Bates family of Fidgets, he being by 1st Grand Duke of Kansas 5731, out of the imported cow, Fidget 6th. Price \$225. Address, E. M. Shelton, Sup't Farm.

### FARM ITEMS.

Our plan of farm operations for 1876 is now complete. As in previous years the aim will be to give the students the benefit of all work upon the farm, so far as they are able to perform it. Already several members of the class in Practical Agriculture have taken considerable contracts in fencing.

The five hundred dollars appropriated by the Legislature, during the last session, for fencing, will be mainly employed in sub-dividing the lower College farm. The ordinary board fence will be employed; posts eight feet apart, the upper three boards only being nailed on at present. The lane running east and west through the farm is to be completed at an early day. The half of the farm lying south of the lane will be divided into four

fields, three containing eighteen acres, and one of fourteen acres, all having gates opening into the main lane. The north half of the farm exclusive of the nursery will be divided into three fields of thirteen acres each, leaving seven acres surrounding the College buildings, the thirteen-acre fields to open into the lane or the College grounds. A fence will also be put across the upper College farm, thus separating the east, cultivated half, from the west half, consisting of unbroken prairie land. This latter will be used for pasturing young stock.

### Students' Column.

In compliance with the request of the President that each of the three literary societies of the Institution select two members to participate in an entertainment at the close of the term, the Alpha Betas elected Mr. C. M. Grover and Miss Esther Evans; the Websters, Messrs. L. B. Rogers and M. F. Leasure; and the Diogenesians, Mr. A. R. Oursler and Miss Ella M. Winne. When all the arrangements are completed, our distant student friends, who always manifest a lively interest in Commencement affairs, shall be informed as to what is on the programme.

We gave notice a few weeks since that an entertainment was being prepared by some of the students, which would soon be offered to the public. This entertainment will probably be given in Peak's Hall, at Manhattan, on Friday and Saturday evenings, April 7th and 8th. The new and popular drama "One Hundred Years Ago," or, "Our Boys of 1776," will be played both nights. One night the afterpiece will be "Dombey and Son," a play dramatized from Dickens; and the other night the afterpiece will consist of some scenes from "Rienzi." Appropriate music, both vocal and instrumental, will also be furnished.

And when we say, in closing this notice, that the money derived from the entertainment is to be applied to the purchase of a new organ for the Baptist Church, surely none will refuse to buy a ticket even if they cannot attend. We hope as many of the students as can will patronize this enterprise and thus assist in a good cause. In our next issue we will publish the cast of characters, together with the exact evenings upon which the entertainment will be given and the price of admission.

### Special Notices.

Job Printing of all kinds done with neatness and dispatch, and at very low rates, at the Nationalist office, Manhattan, Kansas. 49-tf

The Mechanical Department is manufacturing tables, stands, wheel-barrows, harrows, cultivators, scroll-saws, wall brackets, letter and paper holders, and fancy articles of various kinds, all of which are offered for sale on low terms.

Job work, in shape of metal and wood turning, drilling, light and heavy bracket and scroll-sawing, carving, moulding and pattern making for castings, will be done with neatness and dispatch on reasonable terms. Apply to A. Todd, Sup't.

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**Dr. Patee.**

20-1f

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CALENDAR:—Winter Term began Wednesday January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

J. A. Anderson,

President.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

Vol. 1.

MANHATTAN, KANSAS, SATURDAY, APRIL 1, 1876.

No. 50.

## THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

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### Report of the Horticultural Department for the Year Ending November 30, 1875.

To the Board of Regents of the Kansas State Agricultural College:

In submitting my annual report it seems necessary to speak of the disasters of 1874, as affecting this department. The loss of stock, though difficult to estimate, can hardly have fallen short of three thousand dollars. But this was really insignificant when compared with the loss sustained in the part of the orchard and nursery devoted to experimental purposes. This loss is felt most in causing an indefinite delay in the settlement of important questions which really interest the entire State. The ruin was most complete in the experimental apple orchard. The extent of this may be comprehended by the fact that out of more than one thousand varieties of apple trees, which had been worked in the winter of 1873-74, we have only twenty-one varieties remaining, and some of these seriously, if not fatally, injured. These apples had been collected from all parts of the Union, and embraced, as far as practicable, all varieties popular in any section of the country. In the spring of 1874, as many of these varieties were top-worked, as circumstances would permit. While we have saved a large percentage of these, the result is even here almost a total loss. It is evident from the condition of the older apple trees that if these experiments had been commenced two or three years earlier, no such serious loss would have occurred. It is believed that the interest of this department, and the State at large, can be no better served than by seeking again to plant an experimental apple orchard. Our loss in the experimental pear orchard is comparatively small. The trees are all young, having been planted in the spring of 1874. Some of them promise bloom next year. We have about two hundred varieties now living. The orchard is now in such shape that many additions to the list of varieties could be made at comparatively little expense. If this orchard receives the attention that it should, a few years will enable us to gather much valuable knowledge in regard to pear culture in Kansas, and especially in regard to the adaptability of different varieties to our climate.

Small fruit, grape vines, and flowering shrubs, were very seriously injured. As a consequence, our stock of all these has been very much reduced. Time, and some expense, will be required to replenish this stock.

The evergreens in the nursery, which in part or wholly escaped the locusts, are the Austrian pine, pitch pine, Table Mountain

pine, American spruce, and red cedar. But all very small evergreens, and those of all sizes recently transplanted, perished.

That portion of the

#### FOREST

devoted to deciduous trees came through last season with comparatively little injury. The most marked exceptions to this were the European larch and the American chestnut. The former of these perished entirely, while the latter can be scarcely counted better than dead.

The evergreen trees were mostly killed. The only exception to this is the Austrian pine. The forest has received very little attention this season, the whole cost of work in connection with it being \$14.30, or less than one dollar per acre. A portion of this ground will hereafter require very little further attention than the removal of a part of the trees, as they may be wanted for other plantations. The ground which has been thickly planted to forest trees, that is, in rows four feet apart and not exceeding one foot in the row, has given very satisfactory results, and, while only four years from planting, will hereafter become a source of considerable revenue, as the trees which can be removed without detriment to the forest will be wanted by the College and private parties for ornamental purposes. The facts in this case prove what has been uniformly insisted upon by us, viz., that thick plantations in this country are alone desirable.

The ailantus glandulosa seems likely to prove a very good tree for high, dry ground. It affords complete protection to the soil after the first year. It suffers very little from the winter in high, dry situations, though it is tender on the bottom lands. It is evident, however, that for the present the chief reliance of the planter must be upon our own native trees.

#### THE ORCHARD.

The cost of cultivating has been met by the crop of corn raised upon the ground. The lawn and forest ground, upon which the trees were killed, has furnished hay and millet, nearly sufficient to pay expense of care. The vacant spaces in the old nursery and vineyard were planted to beans, and the result was a good crop.

#### THE NURSERY PROPER,

in the mode of handling the stock and actual returns, presents some facts of interest both to nurserymen and orchardists. As everything in the nursery was so seriously injured last year, it became necessary to purchase all our stock, even including our cions, from the East. It is well known that, while most parts of the State were favored with abundant rains during the growing months, we in this immediate vicinity had not rain sufficient to mature our small grain, and as a consequence our root-grafts suffered materially.

The following table, furnished by the politeness of Prof. Kedzie, of the Chemical Department, showing the rainfall during the months of April, May, June and July, for 1875, and also the average of the same

months for fourteen years past, will explain in the clearest possible way our real condition:

MONTH.	Rainfall, 1875.	Average rainfall per month for 14 yrs.
April.....	1.60	2.45
May.....	2.46	4.63
June.....	2.06	4.17
July.....	3.23	4.35
Total.....	9.35	15.00

By this table we see that the total rainfall for the four months named in 1875 was only 9.35 inches, while the average rainfall for fourteen years during the same months has been 15 inches.

From the above statement of the rainfall of the early growing months, we certainly could reasonably anticipate nothing less than a very severe loss of all ordinary root grafts. But what the loss would really have been with the old and ordinary mode of grafting, may be judged from the following facts. It should be here stated, however, that the mode of grafting with long scions originated with this department, and has so far been regarded by horticulturists generally with marked skepticism, the difficulty seeming to exist in the fact that the practice strikes at the foundation of old and cherished theories. But facts are more potent than theories, especially when they reach our pockets. The pertinency of this will be seen in the following statements:

The number of long-cion pear grafts set in the spring of 1875 was 22,541.

The number of the above that lived was 10,467, or 46 per cent.

The number of pear cions of ordinary length set in the spring of 1875 was 920. The number of the above living is 110, or 12 per cent.

A portion of the apple-root grafts were made with cions about double the ordinary length, and the balance with the usual length of cion, and in both cases with the ordinary length of root. Number of long-cion apple-root grafts set, 36,020. Total of the above living, 11,358, or 31 per cent. Number of ordinary apple-root grafts set, 8,070. Total of the above living, 545, or 6 per cent.

What the result would have been had we used entire cions, as in the case of the pear, we can only conjecture from past experiments. These lead us to believe that we should have saved a much larger percentage.

It is easy to see that with the ordinary root graft, used, as far as we know, everywhere, in every nursery of the country, our work for the entire season would have been almost a total loss. In the case of the apple, especially, the number living would not have paid for cultivating the ground. It is also a fact worthy of notice, that trees grown from long cions at one year old are much more valuable than those grown from ordinary ones. The sum actually saved the department by this system of long grafts, in

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, APRIL 1, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## Sheep Husbandry in Kansas. No. 2.

Nothing perhaps speaks so loudly for Kansas as a wool-growing State, as the absence of disease among its flocks. Of more than a dozen communications lately received from practical wool-growers living in different parts of the State, only two report diseases of any kind. In reply to a pertinent question as to the diseases of the flock, the equally pertinent reply with the two exceptions above mentioned has been "my sheep have had no disease."

The strongest argument that we have heard against Kansas as a wool-growing State is the abundance of

### DOGS AND WOLVES,

especially the former. It is true our State is overrun with as mean a lot of curs as ever hung about a civilized community; and so long have our people been tyrannized by these vile canines, that it is useless to expect from "dog laws," however well formed, any immediate relief. What we need more than dog laws is an educated public opinion, and this we shall not get until our people understand that sheep are indispensable to the proper development of the State. In the meantime the presence of dogs and wolves is by no means a serious obstacle to wool-growing in Kansas. Over a large portion of the State sheep can only be kept in considerable flocks, requiring the constant presence of the herdsman. To make the business profitable from the start, the plant should be not much less than five hundred sheep; nor should it be much more unless you have had much experience in the business.

An important question right here is

### WHAT BREED OF SHEEP

shall I commence with? The answer to this question will depend altogether upon your locality and the object you have in view. If in the vicinity of considerable towns where there is a constant demand for mutton, the Southdowns, Cotswolds, or Lincolns will perhaps be found most profitable. But when wool is the principal object, and where large flocks are kept in charge of the herdsman, some cross of the American Merino will be found most profitable. The advantages of the Merino for this work are well understood by our sheep men. They say that the Merino, with its lighter form and compact fleece, withstands fatigue and exposure much better than the coarse-wooled breeds. But it is the gregarious habits of the Merino that recommend them chiefly to the Kansas wool-grower. A flock of Merinos keeps constantly together night and day, and thus the expense of

herding is greatly lessened. To the beginner we should say use common grade Merino ewes, if they are to be had; if not, Missouri ewes, or even Mexican ewes, will do excellently well on the start. If upon these good Merino rams are used, after two crosses sheep of excellent constitution and good shearers will be the result. Many of the Colorado sheep men declare that this is the most satisfactory way to obtain a flock. —[Prof. Shelton.]

Anderson county will have 2,000 acres of flax this year.

Kansas corn is two cents a bushel more than eastern corn.

The prospect now is that Kansas will have the greatest crops ever known.

Kansas and Colorado are to make a joint display at the Centennial — Kansas of her agricultural products, and Colorado of her minerals.

"Remember," said a trading Quaker to his son, "in making thy way in the world, a spoonful of oil will go further than a quart of vinegar."

The scwing machine monopoly received its quietus in the House on Friday, the 10th, that body refusing by a decisive vote to give it a new lease of life by extending its patents.

SOME wise persons seem to carry the impression that we cannot raise Indian corn in Kansas every year. Well, we would shun the task of reading a book in which every thing those folks knew was written. But what we know on the subject we can write in a very few words. The man who has a strong team and uses it to plow his ground deep and to pulverize the clods, and then continues to stir the land will as surely gather a bountiful harvest of corn as in any other State in the American Union. —[Oswego Independent.]

### A Welcome Storm.

Disagreeable as the storm has been it has undoubtedly been of immense value to the State. The wheat crop, which exceeds in breadth any previous crop grown in the State, stood in need of just such a storm as this. The fall and winter had been dry. Indeed, the ground has not been thoroughly wet before for a long time. Now come several deep and heavy falls of snow, bringing with them not only moisture but a manurial effect of their own, which all wheat-growers know to be of immense value. We may almost say that the weather of the past ten days has rendered sure the winter wheat crop of the State. And this crop, from present appearances, will be the largest ever grown in Kansas. How much this means may be inferred from the fact that the crop last year was worth nine and a half millions of dollars.

Our observation for many years is that when we enter upon the spring and summer seasons with the ground well filled with water, we have an unusually productive season. We think it will be found so this year. We would therefore urge upon the farmers throughout the State the good advice given many years ago by Horace Greeley, to plant one acre more. Let our production be pushed to the utmost. A favorable season, this year, would put Kansas in a better condition than she has ever been in before. —[Lawrence Journal.]

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# THE INDUSTRIALIST.

SATURDAY, APRIL 1, 1876.

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### PASSENGER ARRIVES.

Going East..... 10:45 A. M.  
Going West..... 3:47 P. M.

### FREIGHT ARRIVES.

Going East..... 12:40 A. M., and 3:37 P. M.  
Going West..... 8:05 P. M. and 7:30 A. M.

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## WAR DEPARTMENT.

### SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, March 29th, 1876.

DAY.	Temperature			Bar'tr	Wind.		State of Weather
	Max.	Min.	Mean		Direction.	Velocity.	
Thursday...	39°	32°	36.2	29.883	S	10	Cloudy
Friday.....	40	32	36.7	29.621	N-W	12	Snow.
Saturday....	43	33	39.2	29.882	N-W	10	Cloudy
Sunday.....	45	30	42.0	29.873	S-W	24	Cloudy
Monday.....	45	30	34.0	29.785	N-E	50	Snow.
Tuesday.....	35	19	27.5	30.134	N-W	24	Clear.
Wednesday..	39	23	31.7	29.963	N-E	8	Fair.

Rain-fall in inches, 2.58.

HARRY F. MCFARLAND,  
Serg't Signal Service.

Number of students enrolled this term **190.**

The Executive Committee will meet at 3 P. M. next Monday.

The Board of Regents meets next Tuesday at 7 P. M., Adams House.

Prof. Wm. K. Kedzie was in his recitation room last Friday, but is still very weak.

Fifty miles an hour was the rate at which the wind scooted things in the big storm last Monday.

The Mechanical Department is manufacturing tables, stands, wheel-barrows, harrows, cultivators, scroll-saws, wall brackets, letter and paper holders, and fancy articles of various kinds, all of which are offered for sale on low terms.

**BONDS.**—School District Boards about to issue bonds will remember that we have a new blank made PAYABLE TO ORDER, so that there can be no risk in sending by mail; and that our blanks will always have the preference. See advertisement.

Two Devon cows, five years old, imported from Canada and very fine, are offered for sale by the College Farm at very low prices, namely \$75.00 each. These cows are regular breeders, and of great individual merit. With these we can sell a three-year-old Devon bull if desired. The three animals can be had for \$200 cash. Address, E. M. Shelton, Sup't Farm.

The following items are taken from the Nationalist:

The ponds of slop that surround the College buildings go to favor the idea that some walks on the College grounds would not be out of place.

The under-graduate exhibition at the end of the term is to be conducted by the societies. Each of the three has selected two members to perform the duties.

The class in Practical Agriculture, instead of meeting in the recitation room, has for some time past met at the College Barn, where they have a chance to examine the stock.

Mrs. Werden will give her yearly entertainment April 13, 1876, at the Methodist Church, in Manhattan. The programme will consist of both vocal and instrumental duets, solos, trios, also quartets, pantomimes and tableaux. The centennial song will be a very attractive feature, as George Washington, Gen. LaFayette, Ben. Franklin and Earl of Clarendon, with their ladies, in costume of one hundred years ago, will be present to assist in the song. Part second will consist of a fine cantata in which May will be crowned queen of the months. The string band will be in attendance with some of their best selections. Tickets to be obtained at the door. All are cordially invited.

## Students' Column.

Joe E. Williamson, well known to the old students, has gone to Newman, Kansas, to teach school for three months, beginning April 3d. Joe orders his INDUSTRIALIST sent to Newman; he proposes to be enlightened on College Hill affairs, in which he used to figure conspicuously.

The proceedings of the Webster Society are furnished us by T. C. Hulett, who has been appointed to that duty by said society; and the proceedings of the Alpha Beta Society are given us by S. C. Shuemaker and Miss Minnie Whitman, to whom the society assigned that duty.

The Webster Society, as usual, had a very interesting meeting last Saturday evening. After the opening exercises, the order of debate was temporarily passed, on account of absence of one of the chief disputants, and extemporaneous speaking taken up, in which the question of a State herd law was incidentally brought up and discussed at length by some of the members. The order of debate was then returned to and the question, "Resolved, That the public life of Gen. Grant has been a benefit to this country," was discussed with spirit, the judges at the close rendering a decision in favor of the affirmative. A very interesting written debate was read by Messrs. LaTourrette and Harmon. After the transaction of various items of business the society adjourned.

REPORTER.

The Alpha Beta Society met at the usual place of meeting and, in spite of almost impassable roads, the session was well attended and the usual interest that is characteristic of the society manifested. After the appointment of critics and judges the following question was debated: "Resolved, That the American Republic is degenerating." The question was debated with a vim that showed a clear insight into the politics of the day on the part of some that participated. Decision in favor of the negative. The paper being in order for the week, it was then listened to. S. C. Shuemaker and Miss Josie Harper were editors, and the character and tone of the paper reflects credit upon them.

The society next listened to a declamation from J. S. Griffing, which was well rendered. After the report of critics the society adjourned. A cordial invitation is extended to all who may wish to visit us.

REPORTER.

The entertainment for the benefit of the Baptist Church will be given in Peak's Hall, in Manhattan, on Friday and Saturday evenings of next week, April 7th and 8th. The new Centennial Drama "One Hundred Years Ago," or "Our Boys of 1776," will be played both evenings. The first night the afterpiece will be "Dombey and Son," and the second evening "Rienzi" will be rendered. Vocal and instrumental music will be furnished each evening. The following is the cast of characters for the three pieces:

### "ONE HUNDRED YEARS AGO."

Obed Sterling, a quaker, - - - W. C. HOWARD.  
Ephraim Sterling, his son, - - - G. A. GALE.  
Elmer Granger, a young patriot, - - - A. A. STEWART.  
Uriel Bosworth, a quaker convert, - - - S. KIMBLE.  
Pretzel, a Dutchman, - - - S. C. SHUEMAKER.  
Ginger, a negro, - - - C. S. MCCONNELL.  
Burke, } Tories, - - - O. C. BARNER.  
Blucher, } - - - W. F. HOYT.  
Rachel Sterling, quaker mother, - - - E. E. EVANS.  
Ruth Sterling, daughter, - - - E. M. GALE.  
Prudence Granger, - - - N. SAWYER.

### "DOMBEY AND SON."

Dombey, - - - J. T. RITCHIE.  
Carker, - - - O. C. BARNER.  
Joe Bagstock, - - - W. F. HOYT.  
Capt. Cuttle, - - - A. A. STEWART.  
Jack Bunsby, - - - S. C. SHUEMAKER.  
Walter Gay, - - - G. A. GALE.  
Native, - - - C. S. MCCONNELL.  
Mrs. Skewton, - - - KATE WARD.  
Edith Granger, - - - NELLIE SAWYER.  
Florence Dombey, - - - ELLA GALE.  
Susan Nipper, - - - ESTHER EVANS.  
Withers, - - -

### "RIENZI."

Rienzi, Tribune of Rome, - - - L. B. ROGERS.  
Lord Angelo, last of the Colonnas, - - - F. B. QUINBY.  
Claudia, Rienzi's daughter, - - - ELLA GALE.  
Lady Colonna, Angelo's mother, - - - ESTHER EVANS.

Admission, 35 cents; reserved seats, 50 cents. Tickets for sale at Fox's book store, in Manhattan, and at the Printing Hall, on College Hill. Doors open at seven o'clock; curtain rises promptly at eight o'clock.

## Dr. Patee.

20-tf

**The Annals of Kansas**, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

**Township Books.** Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

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**Kansas Publishing House.**—Standard Stock, Standard Work, Standard Prices, to be had at the Bindery and Blank Book Manufactory of George W. Martin, Topeka, Kansas. Orders from counties and townships solicited. All sorts of books made, bound and rebound. Legal Blanks, Seals, Stationery and Job Printing.

**Telegraphy.**—Four miles of line, twenty-five line instruments, and daily instruction and drill, by an experienced operator, in sending, receiving, office accounts, reports, and telegraphic book-keeping. No charge, except for blanks; say \$3 per Term. Special course of lectures by Prof. Kedzie on electricity, battery, etc.

**English Language.**—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

**Habits of Plants.**—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

**The College Farm** keeps on hand and usually for sale specimens of Shorthorn Galloway, Jersey and Devon Cattle, and Essex and Berkshire Swine. We offer for sale one yearling bull and one two-year-old Devon bull, and two Devon cows respectively three and four years old. All imported from Canada. Price, each, \$100. Address E. M. Shelton, Sup't Farm.

**Special for Woman.**—Special lectures on Farm Economy, by Prof. Shelton, discussing the Dairy, Poultry, etc. Gardening, by Prof. Gale, treating of the vegetable, flower, commercial and ornamental. Household Chemistry, by Prof. Kedzie, consisting of the chemistry of cooking, bread, tea and coffee, butter, cheese, dyeing and coloring, bleaching, disinfectants, ventilation, etc.

**Mathematics.**—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

**Manhattan Bank.**—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.



[Concluded from first page.]

the two items of apple and pear trees, after deducting the twelve per cent of pear trees which might have lived under the old system, counting the trees at their market wholesale price, may be put down at \$1,536.64. Had our planting been as large as that of several private nurserymen in the State the actual gain would have amounted to several thousand dollars in a single year. While the importance of this improvement may not be recognized in the moister climate of the East, facts like the above give the assurance that it will thoroughly revolutionize the mode of propagation in climates like that of Kansas, and cannot fail to be of value, both to the tree-producing and tree-planting interest.

There are several other experiments in connection with this mode of propagation which should be carefully tried, and which may bring out as marked results in other directions. I regret that the cramped condition of the department has prevented the accomplishment of anything in that direction for the coming year.

#### SHELTER BELTS.

Such attention has been given to the subject of shelter belts as circumstances would permit, upon the supposition that there is really no question of more practical interest than this one. The location of our State, and the peculiar climatic conditions that prevail here, together with the unsettled condition of the public mind upon this matter, demand that every question connected with this subject should receive careful and unbiased consideration. The peculiar conditions of the year 1874, developed facts in different parts of the State which serve to illustrate this subject. Through the courtesy of the officers of the M., K. and T. Railway, who have extended every facility in their power to my work, I have been enabled to gather a few facts along the line of that road, which were condensed and published in the *INDUSTRIALIST* of May 1st, 1875, and copied somewhat in other papers. It is to be regretted that more time cannot be given to this subject in seeking a solution of several practical questions, which are now perplexing the minds of tree planters.

I would respectfully call the attention of the Board to the importance of planting trees for immediate protection about the new College buildings; if a plantation of the native and common varieties is now begun, it will serve as a protection to a more select and choice selection in future. Also to the question whether the interest of the State may not be better served by planting a large part of the ground now devoted to lawn near the old College buildings, to forest trees of different varieties.

The interest of the department demands that extended experiments be made in small fruits; a small vegetable and flower garden are also among the immediate wants of the department. In furtherance of these objects, as ample provision as possible should be made for water.

It will be impossible to develop this department, and make it what the extent of the horticultural interest in the State demands that it should be, without ample buildings, propagating house and conservatory. Plans of such a structure as it is believed will answer the present necessities of the department, have been submitted to the President, and I trust will receive your candid consideration. Suitable cases for the lecture room are also much needed in this

department, in which can be preserved models of fruit, samples of wood, seeds, and such other means of illustration as may properly belong to this department.

Find below the estimates of the wants of this department for the coming year:

Building and fixtures.....	\$5,000 00
Work and stock in nursery.....	1,138 77
Well, dam, pump, and other fixtures for watering garden.....	600 00
Garden fixtures and implements.....	100 00
Small fruits.....	100 00
Cases for lecture room.....	75 00

Total estimates.....\$7,013 77

The disaster of 1874 left us with almost no marketable stock, hence our cash receipts for the year have been very small.

The account of nursery stands as follows:

Dr.	
Value of stock on hand in spring of 1875.....	\$1,145 58
Total expense of the entire department for work and material.....	1,138 77
	\$2,284 00

Cr.	
Value of stock in nursery proper in the fall of 1875.....	\$3,408 80
Corn raised, 300 bushels.....	75 00
Value of beans, (estimated, not sold).....	50 00
Hay and millet.....	25 00
Cash receipts.....	199 95
	\$3,738 75

Balance.....\$1,454 40

Respectfully submitted.

E. GALE, Sup't Hort. Dep't.

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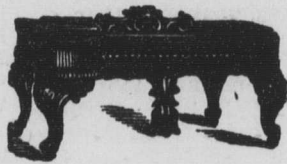
Besides regular class instruction in printing, the weekly publication of the *Industrialist* by the Department furnishes advanced students the requisite drill in newspaper work.

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25-6m

## KANSAS STATE AGRICULTURAL COLLEGE.

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MRS. H. V. WERDEN, Teacher of Inst'm'l Music.

**THIS** College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

#### FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life.

The Farmer's Course is the leading one of the Institution. In the other courses, the special studies are equally determined by the requirements of the proposed vocation.

#### MECHANIC'S.

To Mechanics, in addition to those studies of the Farmer's Course which are useful to the student in his proposed vocation, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

#### WOMAN'S.

The course of study for woman is more practical, and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The workshops include those of the Milliner and Dress-maker, Printing, Telegraph, Scroll-Sawing, Carving, Engraving and Industrial Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

**TUITION ABSOLUTELY FREE!**

No contingent fees, except for use of pianos and organs. Boarding ranges from \$2.75 to \$4.00 per week.

**CALENDAR:**—Winter Term began Wednesday, January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

J. A. Anderson,

President.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, APRIL 8, 1876.

No. 51.

## THE INDUSTRIALIST. Published every Saturday by the PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

### Report of Department of Chemistry and Physics for the Year Ending November 30, 1875.

To the Board of Regents of the Kansas State Agricultural College:

GENTLEMEN: Allow me to submit for your consideration the following report of the work and instruction of the Department of Chemistry and Physics, for the year just completed:

The general character of the course of instruction in my department has not been materially modified during the past year, except that it has been continually extended and enlarged, as the space allotted would permit. The classes of the department during the year have been uniformly of large size and excellent scholarship. During the spring term the class instruction comprised, as usual: 1. A course of lectures upon organic chemistry, accompanied by regular laboratory practice. 2. Chemical analysis, in which a very large class pursued a thorough course in qualitative analysis of simple and compound salts, solutions, brines, mineral water, metallic ores, soils etc. 3. A course in elementary physics, in which, in addition to class recitations, each student was required to personally manipulate the apparatus employed in the performing of experiments. 4. A course in meteorology, in which our own meteorological apparatus, the weather records which have been constantly under the charge of this department, and the daily maps and reports from the office of the Secretary of War, at Washington, have furnished an abundance of material.

During the present term, now drawing to a close, the instruction of the department has comprised—

1. A course of daily lectures in inorganic chemistry, with a large amount of work and practice in the laboratory. I am so thoroughly convinced of the importance to the students of this practical laboratory work, in enabling him to perform with his own hands the experiments which illustrate the chemical principles under discussion, that I shall make arrangements the coming year by which the time occupied in laboratory work will be exactly doubled.

2. Agricultural chemistry, in which, in addition to a thorough course in Prof. Johnson's "How Crops Feed," explanatory lectures have been added, amply illustrated by experiment.

3. A course in mineralogy. The work accomplished by the class in this branch during the present term, has been to me exceedingly gratifying. By authority and sanction of your executive committee, the mineral cabinet properly under charge of this department has been removed from its

quarters in the old building and neatly arranged in the physical laboratory. This, in addition to the metallurgical cabinet already belonging to my department, and increased by specimens collected during my recent European tour, gives us a mineral cabinet which, without boasting, may be said to be the most complete in the West. With the full use of this cabinet the class in mineralogy are now completing a very thorough course in blowpipe analysis, in which, at a large assay table, each student is provided with lamp, blowpipe, agate mortars, reagents, etc., and required to identify and name a large series of minerals from all parts of the United States.

4. A course of lectures in household chemistry, delivered to a class of twenty of the most advanced young ladies of the institution. This is the first attempt at the introduction of such a series of lectures in our course of study; and the result has proved so profitable and gratifying that it will be continued and extended as a regular feature of the course in this department. The course has embraced a consideration, at length, of the composition and properties of food; the manufacture of bread by a great variety of processes; cause and prevention of sour and heavy bread; the preservation and cooking of meats; the mineral elements of food, including the uses and importance of common salt; composition and treatment of milk, butter and cheese; the value of fish as food; composition and uses of eggs as food; the composition, properties and preparation of coffee, tea and chocolate; the ripening and preservation of fruits, manufacture of jellies—together with a large number of other topics in which chemical principles are applied in the various practices of household economy. The facilities for experiment in this course have necessarily been somewhat meager, and I am indebted to many young ladies of the class who have, at their own homes, performed the experiments described in the lectures, in cooking, manufacture of bread by new processes, etc., bringing the result into class for examination the following day. It is plainly evident, however, that to fully realize the benefits of such a course, a well-furnished kitchen laboratory, under the direction of an experienced matron, is imperatively necessary.

The course of instruction the coming term will embrace—1. Elementary Physics; 2. Organic Chemistry; 3. Chemical Analysis; 4. Chemical Physics; 5. Meteorology. In the instruction of my classes in physics, I shall, the coming term, introduce the same course of laboratory practice which I have found so successful in the course in chemistry. I am convinced that a perfect knowledge of either chemistry or physics can only be imparted through such a course of laboratory work, in which each student shall perform every experiment and handle every article of apparatus. As no book is published covering the ground which I wish to include, it will be necessary to conduct the course by printed orders issued to the class. In consequence also of our limited space and supply of apparatus, the classes in phys-

ics, which are very large, will be divided into five sections, which, in addition to the recitation, will report for practice in the laboratory, in succession, each day. In addition to the regular course of College instruction, I am, as usual, receiving into my laboratory special students in Quantitative Analysis, Pharmaceutical Chemistry, Blowpipe Analysis, Assaying, etc., all of whom are offered every facility in their respective branches.

The outside work performed by the department during the past year has been more extended than usual. This has included the usual analysis of mineral waters, brines, specimens of coal, salt of lead, zinc, and many other ores, etc. But especially laborious have been the investigations undertaken for the State Board of Agriculture in the examination of the farm soils of the State. Soil samples have been collected from nearly every cultivated county. A few of these have been minutely analyzed, and many more generally examined, to determine the quantity of organic matter, etc. These have been arranged and classified in the rooms of the Secretary of the Board at Topeka. This is a work, however, which will require years for its ultimate completion.

In connection also with my series of meteorological observations for the Signal Service, I have organized a corps of volunteer observers in various portions of the State, for the purpose of investigating the prevalence of ozone in the atmosphere of Kansas, through the different seasons of the year. These observations will be reported to me regularly at the close of each month. The results will be especially interesting for the purpose of comparison with similar investigations now in progress under the direction of the State Board of Health, of Michigan.

By permission and direction of your Board, I sailed from this country early in March last, for the purpose of making a personal examination of the chemical and physical laboratories of the more prominent universities of Great Britain and continental Europe. Before beginning this tour, I placed my department in the hand of Mr. R. F. Kedzie, the assistant in chemistry of the Michigan Agricultural College, and I am greatly indebted to his efficient and energetic management of the department during the six months of my absence. Before sailing also I was generously provided with official letters of introduction from Governor Osborn, from Gen. Eaton, United States Superintendent of Public Instruction, from Hamilton Fish, United States Secretary of State, and many others, which everywhere gained me most cordial and courteous attention, and placed every facility for examination at my disposal.

While I visited and carefully studied the laboratory of nearly every prominent university in Europe, any minute description of their interesting and peculiar features, would of course be here entirely out of place. Among the more prominent institutions, I

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, APRIL 8, 1876.

J. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

## Judge D. J. Brewer.

The event of the week in College life has been the completion of the course of lectures on Practical Law, begun last term by Hon. D. J. Brewer, Associate Justice of the Kansas Supreme Court. For ability, clearness, ease of apprehension by students, and real worth in the affairs of daily life, we have no hesitation in claiming that a similar course of equal value has never been delivered in any college in the United States. It is an exceedingly difficult task to boil down the principles and practice of law respecting those business transactions which every farmer must engage in, and to state these in every-day English and with such exactness and simplicity as will fix them in the minds of students. The rare qualifications possessed by Judge Brewer for this work have given him the greatest success in accomplishing so difficult a task. The interest in his lectures, large at the start, steadily increased to the close. And when, in a few graceful words of thanks for the attention with which his subject had been received, the Judge concluded the course last Friday, the whirlwind of applause with which the students expressed their desire to meet him again next year would have rattled all the plastering off the ceiling below if there had been any plastering there.

We wish that every farmer in Kansas could have enjoyed the opportunity thus afforded our students of learning what is and what is not law in this State. The information would save many a hard-earned dollar. For the labor and time expended upon this course the Judge has refused any compensation, and the patrons of the Agricultural College are all the more indebted to his generosity. The following resolution, heartily and unanimously adopted by the Board of Regents, tells what they think about it:

Resolved, That the thanks of the Board of Regents of the Kansas State Agricultural College are hereby tendered to Hon. D. J. Brewer for his able, instructive and entertaining course of lectures upon Practical Law, delivered by him to the students of the College during the past college year; and the Secretary of the Board is requested to transmit to Judge Brewer a copy of this resolution.

## State Historical Society.

A meeting of the officers and directors of the State Historical Society was held in the State Auditor's office on Thursday. Measures of importance were adopted looking to the permanence and efficiency of the organization.

This society has undertaken a very useful work. Its officers are men of experience in such undertakings, and they have entered upon their work with a determination to

carry it forward to entire success. To show the purposes of the organization we copy the following declaration of its objects:

"The object of the society shall be to collect, embody, arrange and preserve a library of books, pamphlets, maps, charts, manuscripts, papers, paintings, statuary and other materials illustrative of the history and the antiquities of the State; to rescue from oblivion the memory of its early pioneers, and to obtain and preserve narratives of their exploits, perils, hardy adventures, and patriotic achievements; to exhibit faithfully the past and present condition and resources of Kansas, and to take proper steps to promote the study of history by lectures and other means for the diffusion of information relative to the history and resources of the State."

At the meeting on Thursday, a circular of information was prepared to be sent to the publishers of the newspapers of the State, showing the present condition of the work of the society and soliciting their aid in carrying it forward. Certificates of membership were directed to be sent to the publishers of those papers which are being contributed to the file of the society. Other measures were adopted, calculated to enlist in the work of the organization, the active interest of all who appreciate its worthy objects.

The society is producing, among other good results, the effect to stimulate the writers for Kansas press to the contribution of much more than the usual amount of historical matter. Its collection of Kansas newspapers during the year will be very valuable. About fifty of the papers are now being regularly received and placed on file in condition to be bound. Numerous bound volumes of early Kansas newspapers have been collected. A valuable collection has been made of Kansas historical books and documents.

The officers of the society are: Chief Justice Samuel A. Kingman, President; Hon. Geo. A. Crawford, Vice-President; Col. John A. Martin, Treasurer; and F. G. Adams, Secretary.

Among the directors are: Auditor D. W. Wilder, Col. D. R. Anthony, Hon. Sol. Miller, and F. P. Baker.

The initiatory steps for the organization of this society were taken at the State Editorial Convention held at Manhattan last April. The organization was perfected last December.—[Commonwealth.]

THE London Herald special, after narrating the attacks that had been made on the stock market, and the excitement that had prevailed says:

"In the midst of all this turmoil and excitement, American Government bonds and railway securities have stood as firmly as a rock in a stormy ocean. The former even continue their upward course. The latter suffered from a slight reactionary decline, but generally remained steady amid the crash of falling rocks. It is a noticeable fact that the appreciation of their value is daily increasing."—[Commonwealth.]

BROTHER JONATHAN commenced business in 1776 with thirteen States and 315,615 square miles of territory, which was occupied by about 3,000,000 of civilized human beings. He has now a family of 43,000,000, who occupy thirty-seven States and nine Territories, which embrace over 3,000,000 of square miles. He has 65,000

miles of railroads, more than sufficient to reach twice around the globe. The value of his agricultural productions is \$2,500,000,000, and his gold mines are capable of producing \$70,000,000 a year. He has more than 1,000 cotton factories, 580 daily newspapers, 5,300 weeklies, and 625 monthly publications. He has also many other things too numerous and too notorious to mention.—[Topeka Blade.]

**The Nationalist.**—A Republican Reform weekly, published at Manhattan, Kansas. Contains reports of Bluemont Club, Farmers' Institutes, and everything of special interest to farmers. Terms, \$2.00 per year, strictly in advance to all except those living in the vicinity of Manhattan. 49-tf

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**The Annals of Kansas.**—By Daniel W. Wilder, now ready for delivery. This book contains 691 pages. It is a Kansas Dictionary. It has double the amount of reading matter contained in Sherman's Memoirs, and three times as much as the thirteenth volume Kansas Supreme Court Reports. Price, postage prepaid, \$5.00. Orders solicited. Cash must accompany each order. 30-tf GEO. W. MARTIN, Publisher.

**School District Bonds.**—Several thousand dollars in School District Bonds wanted March 1st, for which the highest prices will be paid. Those direct from District Boards will always have the preference. In all cases, copies of all papers relating to the issue of the bonds must be forwarded, duly certified to by the district clerk. Blank bonds filled out ready for signature when desired. For prices and blanks, address E. GALE, Loan Commissioner, Manhattan, Kan.

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# THE INDUSTRIALIST.

SATURDAY, APRIL 8, 1876.

## TIME-TABLE OF THE K. P. RAILWAY.

PASSENGER ARRIVES.	
Going East.....	10:45 A. M.
Going West.....	3:47 P. M.
FREIGHT ARRIVES.	
Going East.....	12:40 A. M., and 3:37 P. M.
Going West.....	8:05 P. M. and 7:30 A. M.

Passengers with tickets are carried on freight trains between Topeka and Brookville.  
GEO. C. WILDER, Agent.

## WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY.

For the week ending, April 5th, 1876.

DAY.	Temperat'e			Bar't'r	Wind.	State of Weather
	Max.	Min.	Mean	Mean Daily	Direction.	Veloc.
Thursday...	40°	24°	33.2	29.849	N-W	24 Clear.
Friday.....	42	26	36.7	29.937	N-E	38 Lt R'n
Saturday....	38	32	33.5	29.992	N-E	18 Snow.
Sunday.....	37	31	33.7	29.907	W	20 Snow.
Monday.....	55	27	45.0	29.913	W	12 Clear.
Tuesday....	63	37	47.5	29.892	S-W	48 Clear.
Wednesday	58	27	43.0	30.279	S-W	18 Clear.

Rain-fall in inches, .64.

HARRY F. MCFARLAND,  
Serg't Signal Service.

The attention of builders is called to the advertisement for bids.

Miss Mama Woodman, of Wamego, Pottawatomie Co., has been enrolled since our last report.

Everybody has been so busy this week, either with the Board of Regents, or in the rush of farm and nursery work, that it has been impossible to pay the usual attention to the editorial matter for the INDUSTRIALIST.

The Mechanical Department is manufacturing tables, stands, wheel-barrows, harrows, cultivators, scroll-saws, wall brackets, letter and paper holders, and fancy articles of various kinds, all of which are offered for sale on low terms.

BONDS.—School District Boards about to issue bonds will remember that we have a new blank made PAYABLE TO ORDER, so that there can be no risk in sending by mail; and that our blanks will always have the preference. See advertisement.

TO RENT.—A large stone residence, one and three-quarter miles from the College, to rent for one or two years. Everything convenient. Good well, cistern, cellar, garden, fruit trees, stable, corral, &c. Fifty acres of farming land can be had with it.  
J. P. SHANNON, Manhattan, Kas.

During the week Gov. Osborn, Capt. Geo. T. Anthony, E. T. Carr, Architect, and Hon. W. A. Hall, of Missouri, have inspected the workings of the College. The Governor took a case in the INDUSTRIALIST office and set type for a few minutes with a rapidity that proved his skill as a compositor to the full satisfaction of the printing class.

Two Devon cows, five years old, imported from Canada and very fine, are offered for sale by the College Farm at very low prices, namely \$75.00 each. These cows are regular breeders, and of great individual merit. With these we can sell a three-year-old Devon bull if desired. The three animals can be had for \$200 cash. Address, E. M. Shelton, Sup't Farm.

The Board met last Tuesday, all the members present. Judge A. H. Horton, of Atchison, and Judge B. L. Kingsbury, of Burlington, were qualified as new members. After reorganization the usual inspection of the College was made and many important matters settled, chief among which was the adoption of plans for a chemical laboratory and for a horticultural building. Adjourned Friday morning. No time to give details.

The College Farm offers for sale the nicely-bred Shorthorn bull whose pedigree follows:

COLLEGIAN.—Recorded in Vol. 15th, A. H. B.; calved, Oct. 23d, 1875; mostly red; sire, 3d Prince of Oxford, 12676.  
1 dam, Grace Young 5th.....by Tycoon, 7339.  
2 dam, Grace Young 2d.....by Gallant Duke, 6749.  
3 dam, Grace Young.....by Imp. Fortunatus, 1564.  
4 dam, Cassy Young.....by Wellington, 2366.  
5 dam, Poppy.....by Tom Marshall, 1039.  
6 dam, Light Mary.....by Cassock, 3503.  
7 dam, Judith Clark.....by Imp. Goldfinder, (2066).  
8 dam, Young Mary.....by Jupiter, (2170).  
9 dam, Mary.....by Saladin, (1417).  
10 dam, Lucy.....by Meek Bull, (2288), &c.

It will be seen that this young bull belongs to the popular Young Mary sort. His dam, Grace Young 5th, sold at public auction in 1873 for \$1,080. Of his sire it will be sufficient to say that he belongs to the Bates family of Fidgets, he being by 1st Grand Duke of Kansas 5731, out of the imported cow, Fidget 6th. Price \$225. Address, E. M. Shelton, Sup't Farm.

## Students' Column.

Notwithstanding the uncertain condition of the surface of terra firma, and the great inclination the water had to wet the underlying soles of man, the Alpha Beta Society met at its usual place on Friday p. m., March 31st. The attendance was quite large considering, oh dear, such a muddy day! The members being inspired by that grand object, viz., mental improvement, seemed to participate with unusual interest in the various exercises of the society. Debate was passed and extemporaneous speaking was indulged in with a renewed vigor, likewise vim, &c. An ably written and well read essay by Miss Minnie Whitman, spoke well the interest the members take in preparing their allotted duties.

Being the last time that Messrs. Grover and Sikes would meet with the society this term, they of course were called upon to do up their farewell addresses and give them to the society. They did it; they regretted that they had to leave the College, and the Alpha Beta Society, solely on account of duties at home.

Mr. J. S. Griffing was elected secretary in Mr. Grover's stead, and was also selected to take part in the Commencement exercises. REPORTER.

## Special Notices.

Job Printing of all kinds done with neatness and dispatch, and at very low rates, at the Nationalist office, Manhattan, Kansas. 49-tf

Job work, in shape of metal and wood turning, drilling, light and heavy bracket and scroll-sawing, carving, moulding and pattern making for castings, will be done with neatness and dispatch on reasonable terms. Apply to A. Todd, Sup't.

BERKSHIRE PIGS FOR SALE.—We have two litters of very handsome Berkshire pigs which will be ready for shipment within the next two months. Orders will be filled in the order in which they arrive. Price, \$10.00 each. Address, E. M. Shelton, Sup't Farm.

TO BUILDERS.—Sealed proposals will be received by the undersigned at Manhattan, Kansas, until 5 o'clock p. m., Wednesday, May 10th, 1876, for the erection of one Laboratory and one Horticultural Building. Plans and specifications may be seen, after April 24th, at the office of N. A. Adams, in Manhattan, and also at the office of E. T. Carr, Architect, Leavenworth, Kas.

Bids will be received for the whole work complete, or for stone masonry and excavation in one bid and the balance of the work in one consolidated bid. The right is reserved to reject any or all bids offered.  
N. A. ADAMS, Sec'y.

Dr. Patee.

20-tf

The Annals of Kansas, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

H. S. Roberts, M. D.—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

Physician and Surgeon.—L. J. Lyman, M. D. Prompt attention given to calls, day or night. Office and residence No. 27, Poyntz Avenue, Manhattan. 37-3m

Township Books, Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

Bookseller and Stationer.—S. M. Fox, dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127, Poyntz Avenue, Manhattan. 37-3m

Clothier.—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A winter stock just received. Opposite post-office, Manhattan. 37-3m

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Mechanical Department.—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing, Painting. The Department is well equipped with tools and machines for the student's use.

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Webster Society of the Kansas State Agricultural College. Organized, October 12th, 1868; chartered, January, 1871. Motto: "Labor Omnia Vincit." Meets Saturday evening each week. M. F. LEASURE, President.  
C. F. TRAVELUTE, Secretary.

Alpha Beta Literary Society.—Organized, October 17, 1868; chartered, December 26, 1870. The Society holds its sessions, in the College building, every Friday afternoon at two o'clock. Both ladies and gentlemen admitted. Visitors always welcome. GEO. A. GALE, President.  
C. M. GROVER, Secretary.

Telegraphy.—Four miles of line, twenty-five line instruments, and daily instruction and drill, by an experienced operator, in sending, receiving, office accounts, reports, and telegraphic book-keeping. No charge, except for blanks; say \$3 per Term. Special course of lectures by Prof. Kedzie on electricity, battery, etc.

English Language.—The direct aim of the course is to make the student skillful in handling the machinery called language, just as an engineer handles his locomotive. Drill in English, History of English, Structure of English, Study of Words, and Rhetoric. Constant practice in the class room, and, if desired, at the printer's cases.

Habits of Plants.—Thorough instruction in Vegetable Physiology; tracing the development of the root, stem, bud, leaf, flower and seed. Careful study of cereal grains, grasses, and other food-plants, and of native and foreign weeds. Special attention paid to the habits and best methods of preventing or destroying insects inimical to the Kansas Farmer.

The College Farm keeps on hand and usually for sale specimens of Shorthorn Galloway, Jersey and Devon Cattle, and Essex and Berkshire Swine. We offer for sale one yearling bull and one two-year-old Devon bull, and two Devon cows respectively three and four years old. All imported from Canada. Price, each, \$100. Address E. M. Shelton, Sup't Farm.

Mathematics.—Practical, direct and thorough drill in Arithmetic, Book-Keeping, Industrial Drawing, Algebra, Geometry, Trigonometry, Surveying, Mechanics and Engineering. Work in Field, with Tape Line, Chain, Compasses, Transit and Level. The course is shaped for the benefit of the farmer, mechanic, or business man, rather than for the benefit of the astronomer.

Manhattan Bank.—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.



[Concluded from first page.]

particularly studied the laboratories of Manchester and Oxford, England, as well as of the Chemical Society, the Royal Institution and the Royal Society of London; upon the continent, the laboratories of Aachen-Poppelsdorf, Kekeules at Bonn, Fresenius' at Wiesbaden, Bunsen's at Heidelberg, Liebig's old laboratory at Giessen and Wohler's at Gottingen; the laboratories of Kuhn at Halle, of Kolbe at Leipzig, and of Hoffman at Berlin. Very magnificent and interesting also was the university laboratory at Vienna, as were also various physical laboratories through Italy and that of the university of Geneva in Switzerland.

I was above all strongly impressed by the splendid physical laboratories of Paris, where I also visited the fine chemical laboratories of the chemists Deville, Berthelot and Wurtz. These are the most prominent of the leading European laboratories, and no expense has been spared in their construction and equipment. The ordinary chemical laboratories of the continent, however, are not always either as well built, or as well furnished as those of America. But the work performed in them is infinitely superior, the great number of German chemists producing among themselves a spirit of intense competition. All of these great continental laboratories, however, have been constructed upon principles which will never govern laboratory-building in the United States. The residence of the professor in charge always forms part of the laboratory itself, and too frequently the room occupied by his own private apartments, is ludicrously out of proportion to the space allotted the one or two hundred students, who daily assemble there for laboratory work. In many cases also, the peculiar and necessary features of the laboratory have been sacrificed to an imposing elevation and general architectural display. The ventilation, in the great majority of cases, is by the shaft system; and from repeated examination I am now, more than ever, convinced of the poor policy of these elaborate and expensive attempts at shaft ventilation, which so often terminate in utter failure.

Among chemical laboratories proper, that of Owen's College, Manchester, England, lately constructed under the able direction of Professor Roscoe, impressed me as pre-eminently practical. This is the best-ventilated laboratory in Europe, and was the only instance in which I found the shaft system an unqualified success. Professor Roscoe, who very courteously exhibited the complete construction of the building to me, takes very creditable pride in the fact that his laboratory was built, first, for his students, and, secondly, for himself. The analytical rooms for his classes are exceedingly fine, accommodating about seventy-five students each, fully thirty-five feet in height and lighted from above. The rooms are so arranged that the professor can step out of his study, and from an upper window, at an elevation of some twenty feet, can watch both classes at once at work under the instruction of assistants. The great German laboratory of the University of Bonn, of which I had read and expected so much, proved, upon examination, exceedingly disappointing. It is, to be sure, a most magnificent palace, costing hardly less than a quarter of a million of dollars, but it is a palace to the professor rather than to the student. This will be readily understood from the fact that the laboratory was constructed for the special purpose of drawing to its chair of chemistry

Dr. A. W. Hoffman, one of the most brilliant of German chemists. In passing from the magnificently appointed lecture rooms, halls and private laboratories to the apartments actually assigned for class work, one cannot but be impressed with the manner in which the luxury of the professor has been permitted to overshadow the needs of the student. Far superior to this is the great laboratory of the University of Leipzig, in all respects the finest in the world. No mere description can do it justice. The building is two-storied, exceedingly large, and solidly built of stone. It contains a number of separate laboratories, beautifully lighted and equipped, in none of which are more than fifty students allowed to be accommodated at one time. Thus an abundance of light, fresh air and space is furnished to every worker. The laboratories and auditoriums are all connected with the professor's apartments by a net-work of electric bells. Among the laboratories devoted exclusively to physics, none impressed me as more unique or more beautifully adapted to its purpose than that of the University of Paris. The building is very cheaply constructed, long, low, one-storied and completely roofed with glass. A magnificently lighted work-room is thus formed, which is equipped with the finest and most expensive apparatus.

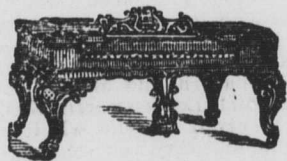
I also studied over attentively the various experiment stations distributed throughout Germany, whose extensive laboratories are almost exclusively devoted to Agricultural Chemistry. I have already given an account of these in my report to the Secretary of the State Board of Agriculture.

In no one of this large number of chemical and physical laboratories which I visited, did I fail to find some new and original feature just to my purpose. In the designs for our laboratory building, which I now submit to you, I have sought to make such a combination and modification of these excellent features as our needs and works as an industrial institution demand. It is hardly necessary to add that such a separate laboratory building is absolutely essential to perfect success in the work and instruction of this department.

Very Respectfully,  
WM. K. KEDZIE,  
Professor of Chemistry and Physics.

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THIS College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

### FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life.

The Farmer's Course is the leading one of the Institution. In the other courses, the special studies are equally determined by the requirements of the proposed vocation.

### MECHANIC'S.

To Mechanics, in addition to those studies of the Farmer's Course which are useful to the student in his proposed vocation, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

### WOMAN'S.

The course of study for woman is more practical, and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The workshops include those of the Milliner and Dress-maker, Printing, Telegraph, Scroll-Sawing, Carving, Engraving and Industrial Music.

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Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

**TUITION ABSOLUTELY FREE!**

No contingent fees, except for use of pianos and organs. Boarding ranges from \$2.75 to \$4.00 per week.

CALENDAR:—Winter Term began Wednesday, January 5, and closes Wednesday, May 24, 1876.

For further information, apply to

J. A. Anderson,  
President.



# THE INDUSTRIALIST.

KANSAS STATE AGRICULTURAL COLLEGE.

VOL. 1.

MANHATTAN, KANSAS, SATURDAY, APRIL 15, 1876.

No. 52.

## THE INDUSTRIALIST.

Published every Saturday by the  
PRINTING DEPARTMENT.

TERMS OF SUBSCRIPTION, 75 cents per year, postage prepaid. Payment absolutely in advance! Paper stopped at expiration of subscription. Advertising rates made known on application. Address A. A. STEWART, Manhattan, Kas.

### Practical Law.

[Abstract of five lectures delivered by Associate Justice D. J. Brewer, before the students of the Agricultural College, April 4-7. Reported for the INDUSTRIALIST by G. H. Failyer.]

#### NEGOTIABLE PAPER.

There are two kinds of paper, negotiable and not negotiable. Negotiable paper is of special value because of its negotiability; it can pass free from all questions between the original parties. There are two kinds of negotiable paper: Notes and Bills of Exchange. A promissory note is a promise to pay at a definite time, without any contingencies, a sum of money, and must contain one of the phrases "or order" "or bearer;" but not necessarily "value received." The parties to a note are the maker and the payee. Parties to a draft, drawee, drawer and payee. When the drawee accepts, he is called the acceptor. An admission that a certain amount is owed is not negotiable. It makes no difference upon what material, or with what, negotiable paper is written. It may be drawn blank and filled out according to agreement; but any other change destroys a paper.

Money and negotiable paper, transferable by delivery, are the only articles to which a thief can give a good title. When a note contains the words "or order" it must be indorsed by the payee on being transferred; not so when containing "or bearer." There are two kinds of indorsements, "in blank" and "in full." When indorsed in blank, it need not again be indorsed on being transferred. If indorsed in full, by writing the name of the person to whom delivered over the signature, it must again be indorsed when transferred. The payee may strike out all indorsements except the first. A third party is free from all defenses as between the original parties, if the transfer was made in good faith, before maturity, for a consideration, providing this third party knew nothing of questions between the original parties, and the circumstances were not such as would put him on his guard; but in a second transfer, difficulties between the original parties need not be considered. In what is known as accommodation paper, where a person signs paper without receiving value, he stands in the same position that he would if he had received value. By the payee's indorsing in blank is meant that he transfers title and agrees to pay if the parties primarily liable do not, on suitable demand and notice. If not wishing to become liable, "without recourse" may be written above the signature. In a draft the acceptor is primarily reliable; the others conditionally liable. In a note the maker is primarily reliable.

What is demand and notice? On the day

of maturity that demand for payment be made of the maker of a note or the acceptor of a draft. If he fails to pay, the indorsers must be notified the same day, if in the same town; by the first mail, if in different towns. Failing to notify discharges the indorsers. Any or all the indorsers may be skipped; but if any of the indorsers be skipped all subsequent ones are released. No indorser has recourse on those following him. Notice may be given in one of two ways: Notice may be served on the last indorser, he on the one preceding him and so on; or notice may be served on all at once. By writing "protest waived," an indorser relinquishes his right to be notified. The drawer of a bank check is not released by not being notified; but the check must be presented within reasonable time or the drawer is discharged on the ground of the negligence of the payee.

Any stipulations make a paper unnegotiable. Where parts of papers are cut off, the rule is that a person who signs a paper which, after a portion of it has been removed, still reads as a whole paper, is guilty of negligence; of two innocent parties he who is guilty of negligence is liable. The principle applying to an indorser of a paper is the same as if he drew it. After notice has been given and the liabilities are fixed, the holder can sue any of the indorsers. If he makes any arrangements with the one who is primarily liable, he releases the other parties. The same holds good between intermediate parties releasing subsequent parties. But in all these cases there must be a valuable consideration.

A check may be payable on demand or on sight, at a specified time after date or after sight. On all paper, except that payable on demand or on sight, three days of grace are added to the time. It is now considered as a portion of the time and not as days of grace. This time varies in different countries. In some, fifteen days are given. May be drawn without grace. When payable on demand or sight, it is not necessary to have an acceptance; but if payable at a specified time or at a specified period after sight, it should be presented for acceptance within a reasonable time. In case of failure to accept or to pay after acceptance, notice must be given to the other parties. If the drawee refuses to accept another may accept, called an acceptor for honor. In such circumstances the holder should present first to the drawee; if he refuses it should be presented to the acceptor for honor. A holder need not receive conditional acceptance. The effect of accepting is to acknowledge the genuineness of the signature. Parties can not after signing raise the claim that the paper is not good.

An acceptance must be according to the laws of the State in which it is made. In this State the acceptance must be in writing; in some, it may be verbal. Must be drawn according to the laws of the State in which drawn; accepted according to the laws of the State in which accepted. Regarding rate of interest, may be drawn according to either State. The laws of the

State in which suit is brought control the manner of bringing suit.

Commercial paper may be converted into indorsement in full or indorsement in blank. Paper payable to two persons who are not partners must be indorsed by both on being transmitted. Giving a note does not pay a debt and create a new one. Unless there is an express understanding to the contrary, the note may be returned and suit brought before the maturity of the note. Giving a note is simply a new evidence of debt. The general ruling has been that taking a note for a former debt is for value, but the ruling has not been uniform.

#### AGENCY.

An agent is one who acts for another. In the eye of the law the act of the agent is the act of the principal. There are two kinds of agents, general agents and special agents. A general agent is one authorized to do any business or any of a class; special agents to do a particular act. A man may be a general agent for one kind of business and a special agent for another kind. A clerk in a store is a general agent for such articles as he offers for sale; if instructed to buy a horse he acts as a special agent. A man may be a general agent in a particular place and a special agent in any other place. It is sometimes difficult to say when an act is within a general or a special agency.

An agency may be created in four different ways: 1. In writing. 2. By parole; may be created by parole when the business must be done in writing. 3. By silence; as when an owner is present when an article is sold and does not object. 4. By ratification; when the principal receives the pay although he did not authorize the sale. But he can not ratify in part and repudiate in part. The death of the principal revokes the agency, whether or not the time specified for its existence has expired. A special agent can bind the principal only as to the exact authority given; but a general agent can bind the principal to anything within the apparent scope of his authority, although he acts contrary to instructions. In dealing with a special agent you must ascertain his powers, but with a general agent no inquiries need be made. An agent may sometimes bind himself, as when he expressly agrees to be bound. He is bound if he exceeds his authority. An agent may be bound when he conceals the fact that he is an agent. As a general proposition when an agent so acts as not to bind his principal he binds himself. An exception is in the case of a public agent. The public agent and the one acting with him are both supposed to know the law and if an act is beyond the powers of the agent no one is bound. Another proposition is that notice to, knowledge of, representations by, and payments to, an agent bind the principal. But notice must be given to an agent in reference to the business of which he has charge to bind the principal. Where an agent assumes to act outside of his authority he does not bind his principal.

[Concluded on fourth page.]



# THE INDUSTRIALIST.

SATURDAY, APRIL 15, 1876.

JNO. A. ANDERSON,  
Managing Editor.

J. H. FOLKS,  
Business Manager.

ASSOCIATE EDITORS, MEMBERS OF THE FACULTY.

!!!

Being a year old to-day the INDUSTRIALIST is as happy, sassy and vociferous as any little boy just plumped into his first pair of breeches! While sympathizing with papers still in "Vol. I" it nevertheless looks upon them with a greater amount of complacency than sympathy; and to those standing in need of fatherly advice, as they all do, it offers gratis large quantities of that valuable but somewhat unsalable article.

In turning over the file, for the purpose of comparing the things announced in its salutatory as the things it hoped to do, with the results as exhibited by its pages, the INDUSTRIALIST, in the fullness of that modesty which characterizes journalistic yearlings, is very well satisfied with itself! indeed, vigorously inclines to the belief that it has actually done far better than it either promised or expected to do—which belief nothing save the modesty aforesaid keeps it from expressing publicly.

In the matter of typography for instance, it only hoped to present such a sheet as might reasonably be looked for at the hands of young apprentices. The great bulk of the type-setting has been done by the members of the printing classes, and not a line has been set nor an impression made by any one not connected with the Department. And yet, in the plethora of that humility to which reference has already been made, the INDUSTRIALIST hops over to the belief that, for newspaper work, its pages will show less blacksmithing and steadier improvement than will those of the average weeklies.

From which highly exciting narrative it draws the moral that the standard of its routine instruction is at least as high as that of the average weekly, and, therefore, that its apprentices are as carefully taught as in the average office. As in every office much of the typographical excellence depends upon the foreman, so in ours; and we give full credit to the fidelity of A. A. Stewart, Superintendent of the Printing Department. So, too, has the worth of the drill afforded by the publication of the INDUSTRIALIST to the members of the printing classes been more real and effective than was anticipated. And as an educational agent, in its proper line, it has proven invaluable. In fact, to do without it now would be like having an oyster supper without any oysters.

ANY paper that does not receive the INDUSTRIALIST will confer a favor by notifying us thereof.

## To the Press.

In beginning its second year, the INDUSTRIALIST desires to express hearty thanks for the kindness universally shown it by the Kansas press. In addition to notices and clippings, the great majority of the State journals have placed the INDUSTRIALIST on their exchange list, notwithstanding their greater cost and value; and go regularly through our sanctum to files in the students' reading room. As a practical expression of our appreciation of this favor we will insert gratis, for at least one month, a three-line nonpareil "ad" of any exchange furnishing the copy therefor.

Our regular edition is 700 copies, and half a dozen editions have been 1,600, one reaching 3,300 copies. We have subscribers in every county in the State, and many papers go to correspondents in other States who seek information concerning Kansas. Those who have tested the matter say that the INDUSTRIALIST reaches a greater number of representative men, and proves to be a far better advertising medium, than either they or we had anticipated. The acceptance of this offer by exchanges can't hurt and may help them; at any rate it will enable us to evince our appreciation of a year's kindness in the only way now practicable. Two columns, if need be, will be surrendered to these advertisements, which will be inserted in the order of their reception.

## Sheep Husbandry in Kansas. No. 3.

Whatever breed of sheep may be decided upon as the foundation of the future herd, great care must be exercised in the selection and in the treatment given them the first season. We emphasize these two points because we know they are vital matters. After making careful observations of the flocks of Colorado and Kansas we are prepared to say that ninety per cent of the failures made in the business of wool-growing in these two States are attributed directly (1) to carelessness in selecting the flock and (2) to gross neglect the first season after their arrival, in the matters of food, shelter, and general treatment.

### WHAT AND WHEN TO BUY.

If sheep raised in Kansas can be had at a reasonable price we should prefer them to almost any that could be obtained East or West. But most people owning sheep in Kansas find it most profitable to keep them, and would-be buyers are forced to resort to the older settled regions east of the Missouri river.

In selecting the flock anything but good sheep will prove worse than useless and dear at any price. By good sheep we mean not high-bred or even pure-bred sheep, but sheep at their prime and free from disease. To obtain such stock as this is not an easy matter. Few farmers will part with the best of their flocks lightly; they nearly

always have a few sheep to dispose of, and if the buyer knows his own interests he will examine these suspiciously. For age he will examine the only sure indication, the incisor teeth. There may be eight or less of these, but they should always be keen, broad and fan-like. If these "broad teeth" are blunt and round like quills, with vacant spaces between them, with perhaps occasionally a tooth wanting, the sheep is "broken-mouthed," a "cull," and worth the price of its pelt less the cost of taking it off.

The disease chiefly to be guarded against is the dreaded "scab," and the surest indication of this is the removal in patches of the fleece. If the cuticle about these patches be carefully examined it will be found more or less covered with angry-looking blotches with numerous offensive pustules and scabs. The scab does not originate spontaneously in Kansas. Where perfectly sound sheep have been procured, and these are kept not only free from infected animals but away from localities recently occupied by diseased animals, no danger from the scab need be anticipated. Buy good sheep then or buy none, for no other sheep can be safely transported a hundred miles or even half that distance.

Another grand mistake, and the cause of many failures, is made in bringing sheep from a distance late in the season. They arrive upon the range thoroughly exhausted from the effects of a long journey; the grass is hard and wiry; the sun powerful and the water insufficient. As a result the weakest perish before the winter has set in, and the remainder are poorly qualified to withstand the hardships incident to the season. Sheep should be started for their destination immediately after shearing, say by the middle of June, and the shorter the time spent on the way the better. They then reach their new homes when the grasses are juicy and succulent, and before winter sets in they have become thoroughly acclimated.

Prof. J. H. Lee, who in 1875 drove five hundred odd sheep from Missouri to this vicinity, in a recent letter, makes some valuable suggestions under this head. He says:

"But, while I would prefer thorough-bred Merinos to any of the long-wooled breeds, I think we can find something better for the country than either, namely, grades produced by crossing native coarse-wooled sheep with Merinos. \* \* \* In Missouri, last summer, I paid on an average \$1.80 a head for sheep, and I became convinced that if a man can buy here in Kansas good, healthy ewes at \$2.50 a head, he will find them cheaper in the long run than Missouri ewes at \$1.50.

Nevertheless, since sheep are not always to be found for sale here, it may sometimes be necessary to go farther east to buy. If so, the sooner after shearing time this is done the better. Early summer is the best time to drive sheep long distances. The heat and sun are less oppressive in June than in July or August; the grass is fresher, and the water more abundant. The sheep can usually be bought cheaper just after shearing than at any other time. Had I purchased a month earlier, I could have obtained my flock thirty per cent lower than I did. In driving sheep care should be taken not to overdrive. On a cool, cloudy, misty day, a flock may be driven fifteen or sixteen miles a day, but this should be avoided. From six to ten miles a day is fast enough for the safety and comfort of the flock."—[Prof. E. M. Shelton.



# THE INDUSTRIALIST.

SATURDAY, APRIL 15, 1876.

## TIME-TABLE OF THE K. P. RAILWAY.

### PASSENGER ARRIVES.

Going East..... 10:45 A. M.  
Going West..... 3:47 P. M.

### FREIGHT ARRIVES.

Going East..... 12:40 A. M., and 3:37 P. M.  
Going West..... 8:05 P. M. and 7:30 A. M.

Passengers with tickets are carried on freight trains between Topeka and Brookville.

GEO. C. WILDER, Agent.

## WAR DEPARTMENT.

SIGNAL SERVICE, UNITED STATES ARMY, STATE AGRICULTURAL COLLEGE STATION.

For the week ending, April 12th, 1876.

DAY.	Temperat'e			Bar'tr	Wind.	State of Weather
	Max.	Min.	Mean			
Thursday...	59°	27°	46.5	30.153	S-W 18	Clear.
Friday.....	67	35	55.2	29.950	S-W 16	Clear.
Saturday.....	71	43	60.5	29.769	S-W 28	Clear.
Sunday.....	71	52	59.2	29.610	S-W 24	Hy Rn
Monday.....	70	45	63.0	29.565	S-W 32	Cl'dy
Tuesday.....	82	64	72.2	29.466	S 30	Hy Rn
Wednesday...	65	40	48.6	29.788	N-E 36	Cl'dy

Rain-fall, Sunday, 9th inst., .32. Tuesday, April 12th, 2.4. Total, 2.72.

HARRY F. MCFARLAND,  
Serg't Signal Service.

Number of students enrolled this term **191**.

100,000,000,000,000,000,000,000 subscribers wanted!

The attention of builders is called to the advertisement for bids.

The alfalfa on the College farm is in splendid condition, and growing as fast as a campaign lie.

W. C. Stewart, Superintendent of Telegraphy, is experimenting successfully on a cheap system of electric bells for our recitation rooms.

**TO RENT.**—Convenient house for rent near the State Agricultural College. Board taken for the rent. (52-tf) Wm. E. GOODNOW.

The annual oration before the Kansas State Agricultural College, will be delivered by Major J. K. Hudson, editor of the Kansas Farmer, Wednesday, May 17th, 1876.

Notwithstanding the snow-storm of last Wednesday morning, it looks now as if spring had fairly begun. Only it has looked the same way a half dozen times lately.

Mrs. Cripps, Sup't of the Sewing Dep't, desires us to announce that the department is prepared to attend to dress-making, cutting and fitting. Work executed with neatness and dispatch.

The Mechanical Department is manufacturing tables, stands, wheel-barrows, harrows, cultivators, scroll-saws, wall brackets, letter and paper holders, and fancy articles of various kinds, all of which are offered for sale on low terms.

**BONDS.**—School District Boards about to issue bonds will remember that we have a new blank made PAYABLE TO ORDER, so that there can be no risk in sending by mail; and that our blanks will always have the preference. See advertisement.

**TO RENT.**—A large stone residence, one and three-quarter miles from the College, to rent for one or two years. Everything convenient. Good well, cistern, cellar, garden, fruit trees, stable, corral, &c. Fifty acres of farming land can be had with it. J. P. SHANNON, Manhattan, Kas.

At last we are to have a sidewalk between the College buildings. The mud has not been more than 7,000 feet deep, and not over 25,000,000 students have found sad and nasty graves in the ocean of slush between the College and Manhattan. As we go to press the boys are putting down a good walk between buildings.

Two Devon cows, five years old, imported from Canada and very fine, are offered for sale by the College Farm at very low prices, namely \$75.00 each. These cows are regular breeders, and of great individual merit. With these we can sell a three-year-old Devon bull if desired. The three animals can be had for \$200 cash. Address, E. M. Shelton, Sup't Farm.

The College Farm offers for sale the nicely-bred Shorthorn bull whose pedigree follows:

COLLEGIAN.—Recorded in Vol. 15th, A. H. B.; calved, Oct. 23d, 1875; mostly red; sire, 3d Prince of Oxford, 12676.

1 dam, Grace Young 5th.....by Tycoon, 7339.  
2 dam, Grace Young 2d.....by Gallant Duke, 6749.  
3 dam, Grace Young.....by Imp. Fortunatus, 1564.  
4 dam, Cassy Young.....by Wellington, 2366.  
5 dam, Poppy.....by Tom Marshall, 1039.  
6 dam, Light Mary.....by Cassock, 3503.  
7 dam, Judith Clark.....by Imp. Goldfinder, (2066).  
8 dam, Young Mary.....by Jupiter, (2170).  
9 dam, Mary.....by Saladin, (1417).  
10 dam, Lucy.....by Meek Bull, (2288), &c.

It will be seen that this young bull belongs to the popular Young Mary sort. His dam, Grace Young 5th, sold at public auction in 1873 for \$1,080. Of his sire it will be sufficient to say that he belongs to the Bates family of Fidgets, he being by 1st Grand Duke of Kansas 5731, out of the imported cow, Fidget 6th. Price \$225. Address, E. M. Shelton, Sup't Farm.

We haven't been as far west as Salina for five years until this week; and very distinctly remember when Junction used to regard those towns out there as little flag stations, stuck along the road more for the looks of the thing than for any practical purpose. The growth of Solomon, Abilene and Salina struck us as being something wonderful, especially in view of the grasshopper raid. Churches, stores, large school-houses, hotels and tall elevators have changed the whole appearance of things. And if any man had said in 1870 that such a wheat field as T. C. Henry's would have been a three-year-old fact in 1876, his fare to the asylum would have been promptly paid by the commissioners of any county. Ditto in regard to the splendid hotel at Abilene, especially after the loss of the cattle trade. Where Salina has gotten its hotels, school-house, court-house, elevators and cosy dwellings from in so short a time is a mystery.

And the difference between the growth of these towns on the one side, and of those east of Junction on the other, can only be accounted for by the herd law. Gentlemen may differ on that subject to their heart's content, but what we have seen this week is evidence enough for us. It is the same story which the growth of Clay county tells. This aforesaid is a herd law-yeer.

## Students' Column.

Mrs. Werden's yearly entertainment was given at the Methodist church, in Manhattan, on Thursday evening. Despite the foul weather, the church was well filled, and all present seemed pleased with the variety of exercises which were offered. The tableaux were enjoyed more than anything else. The only object in having an admittance fee was to obtain money to defray expenses, but this was not done. We think Mrs. Werden deserves credit for her energy and for the taste displayed in the arrangement of the different scenes.

The entertainment for the purpose of procuring money to purchase a new organ for the Baptist church, passed off nicely, and was a success in every sense. The evenings were pleasant, the moon shone brightly and every outward indication was favorable to good audiences both evenings. The first night the hall was crowded; the second night the audience was slim; however, as much money was taken in the first evening as the players expected to obtain for both evenings. The entertainment netted \$66.30 which has been placed to the credit of the organ fund. We will not speak of the different characters in the several pieces, but all unite in saying that the performers executed their parts admirably well. The company talk of visiting Junction City in two or three weeks.

## Special Notices.

**Job Printing** of all kinds done with neatness and dispatch, and at very low rates, at the Nationalist office, Manhattan, Kansas. 49-tf

**Job work**, in shape of metal and wood turning, drilling, light and heavy bracket and scroll-sawing, carving, moulding and pattern making for castings, will be done with neatness and dispatch on reasonable terms. Apply to A. Todd, Sup't.

**BERKSHIRE PIGS FOR SALE.**—We have two litters of very handsome Berkshire pigs which will be ready for shipment within the next two months. Orders will be filled in the order in which they arrive. Price, \$10.00 each. Address, E. M. Shelton, Sup't Farm.

**To Builders.**—Sealed proposals will be received by the undersigned at Manhattan, Kansas, until 5 o'clock P. M., Wednesday, May 10th, 1876, for the erection of one Laboratory and one Horticultural Building. Plans and specifications may be seen, after April 24th, at the office of N. A. Adams, in Manhattan, and also at the office of E. T. Carr, Architect, Leavenworth, Kas.

Bids will be received for the whole work complete, or for stone masonry and excavation in one bid and the balance of the work in one consolidated bid. The right is reserved to reject any or all bids offered. N. A. ADAMS, Sec'y.

**Dr. Patee.**

20-tf

**The Annals of Kansas**, by Daniel W. Wilder. Published by Geo. W. Martin, Kansas Publishing House, Topeka. Price \$5.

**H. S. Roberts, M. D.**—Office south side of Poyntz Avenue, between Third and Fourth streets. Residence corner of Third and Pierre streets. 16

**Physician and Surgeon.**—L. J. Lyman, M. D. Prompt attention given to calls, day or night. Office and residence No. 27, Poyntz Avenue, Manhattan. 37-3m

**Township Books.** Poor Records, Estray Records, Poll Books, Official Records, furnished by the Kansas Publishing House, Topeka.

**Bookseller and Stationer.**—S. M. Fox, dealer in Fine Stationery, Pocket-Books, Envelopes, Gold Pens, Blank Books, etc. No. 127, Poyntz Avenue, Manhattan. 37-3m

**Clothier.**—Wm. Knostman, dealer in Ready Made Clothing, Hats, Caps, and Gents' Furnishing Goods. A winter stock just received. Opposite post-office, Manhattan. 37-3m

**A Thorough and Direct Education**, at the Kansas State Agricultural College, for the Farm, Orchard, Shop and Store. Tuition Absolutely Free! The winter term began Wednesday, Jan. 5, and closes Wednesday, May 17, 1876.

**Mechanical Department.**—Regular instruction and practice in Carpentry, Cabinet-Making, Turning, Scroll-Sawing, Wagon-Making, Blacksmithing, Painting. The Department is well equipped with tools and machines for the student's use.

**Webster Society** of the Kansas State Agricultural College. Organized, October 12th, 1868; chartered, January, 1871. Motto: "Labor Omnia Vincit." Meets Saturday evening each week. M. F. LEASURE, President. C. F. TRAVELUTE, Secretary.

**Alpha Beta Literary Society.**—Organized, October 17, 1868; chartered, December 26, 1870. The Society holds its sessions, in the College building, every Friday afternoon at two o'clock. Both ladies and gentlemen admitted. Visitors always welcome. GEO. A. GALE, President. C. M. GROVER, Secretary.

**Manhattan Bank.**—E. B. Purcell, Banker; Jno. W. Webb, Cashier; Geo. S. Green, Attorney. A general banking business transacted. Bills of Exchange issued on all principal cities and towns of Europe. All collections have the personal, faithful and prompt attention of our attorney. Proceeds remitted promptly, at current rates of exchange, without any charge of commission.

**School District Bonds.**—Several thousand dollars in School District Bonds wanted March 1st, for which the highest prices will be paid. Those direct from District Boards will always have the preference. In all cases, copies of all papers relating to the issue of the bonds must be forwarded, duly certified to by the district clerk. Blank bonds filled out ready for signature when desired. For prices and blanks, address E. GALE, Loan Commissioner, Manhattan, Kan.



[Concluded from first page.]

The principal is not responsible for any criminal acts of his agent unless he connives at them.

Circumstances in which an agent may become responsible to his principal: As a general rule he is bound when he exceeds his instructions. This applies to both special and general agents. If an agent has orders to act immediately, he must do so or run his own risk. If there is a gain by waiting, the gain goes to the principal; if a loss, it is the agent's loss. But if the principal accepts the results of his acts, the agent is released. But if an agent sells for less than instructed, the principal may take the money which has been received and notify the agent that he will hold him responsible for the remainder. An agent is bound to reasonable skill and diligence. He is under obligations to act in good faith. When acting as agent, he can not buy from or sell to himself. A sheriff or an administrator can not sell to himself. A lawyer cannot buy from his client except directly. And then, if inquiry be made, the burden of proof is upon him; he must show that he was acting in good faith.

An agent is entitled to compensation, even if nothing is said; in such case he can collect a reasonable amount. A principal does not indemnify for accident. But where a loss or injury necessarily occurs, the principal is responsible. He must keep and render accounts and pay over on demand. A time may be arranged for paying, if not he should remit at once.

#### How Lincoln Obtained His Education.

Mr. Lincoln in the later years of his life was an educated man. He did not read Greek or Latin, nor was he versed in the translations of classical literature or in mythology, but his mind was well stored with the knowledge of the times in which he lived. He was almost the only man I ever knew who, not having learned to spell accurately in early life, afterwards became a good speller. Mr. Lincoln's manuscripts will show that he rarely spelled a word wrong. He never studied English grammar, and for his success it is perhaps fortunate that he did not know how to make complicated sentences like Choate. He never in early life, when his language was formed, even read the British poets, or standard English prose writings, or, if at all, to a very limited degree. Hence his language as now found in his speeches is the language talked by common people rather than the language of literature, and all his similes are from common life and not from classics, ancient or modern. His sentences grammatical, not because he knew much of grammar, but because they were simple and straight, like himself. The way he came to be educated was by never being ashamed to confess his ignorance of what in fact he did not know, by always asking questions where he could probably elicit information, and by studying all his life. I have seen him repeatedly around upon the circuit with school books. I remember once in particular when he had a geometry. His mind being naturally logical and accurate, the demonstrations which he was then going over for the first time struck him wonderfully. I can see him in memory now sitting on the porch of Burnett's Hotel at Clinton, delighted in the proposition that the square described upon the hypotenuse of a right-angled triangle is equal to the squares of the other two sides.—[Leonard Swett.]

**The Annals of Kansas.**—By Daniel W. Wilder, now ready for delivery. This book contains 691 pages. It is a Kansas Dictionary. It has double the amount of reading matter contained in Sherman's Memoirs, and three times as much as the thirteenth volume Kansas Supreme Court Reports. Price, postage prepaid, \$5.00. Orders solicited. Cash must accompany each order. 30-tf GEO. W. MARTIN, Publisher.

**Chemistry and Physics.**—The most valuable and practical course in the West. Elementary Physics, Inorganic Chemistry, Organic Chemistry, Chemical Analysis, Agricultural Chemistry, Metallurgy, Chemical Physics, Meteorology, Pharmaceutical Chemistry, Photography, Household Chemistry. Special course in Chemistry for Post-Graduates. The Laboratories are fully furnished with the best philosophical apparatus and the largest assortment of chemical apparatus and reagents west of the Alleghanies, all of which is for the use of the students.

#### Printing! Printing!! Printing!!!

Daily Drill in the work of a  
**FIRST-CLASS PRINTER.**  
The Literary Departments offer a thorough education in the construction and use of the English Language, as employed by the Proof-Reader; in Book-Keeping; and in Industrial Drawing, as the best developer of that Taste necessarily exercised by every good Job Printer.

**THE PRINTING DEPARTMENT**  
is well furnished with all the facilities for a speedy mastery of the art of Printing, and is in charge of a practical printer.  
Besides regular class instruction in printing, the weekly publication of the Industrialist by the Department furnishes advanced students the requisite drill in newspaper work.

#### California Grown Alfalfa Seed.

#### IN QUANTITIES TO SUIT.

At from \$14 to \$16 gold coin (or its equivalent in currency) per one hundred pounds.

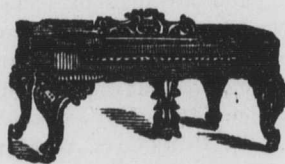
Extra sacking and drayage about fifty cents per one hundred pounds extra.

**VEGETABLE  
AND  
FLOWER SEEDS**  
In extensive variety sent by mail anywhere at the lowest rates.

**FREE** TO APPLICANTS! My "Guide," containing lists and prices of seeds, together with "History and Culture of Alfalfa," etc.  
(48-3m) R. J. TRUMBULL,  
(419 & 421 Sanson St.) San Francisco, Cal.

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559 Main Street, Kansas City, Mo.

**MUSIC PUBLISHERS**  
And Importers of  
**MUSICAL MERCHANDISE.**



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The Popular  
"New Scale Haines" Pianos,  
And The  
Matchless Burdett Organs.

Our Pianos and Organs are recommended by the Profession generally to be the best that American skill has yet produced, and we guarantee that the price will be as low as any one can possibly ask. We are now selling full seven-octave Pianos for \$275, cash. Correspondence solicited, and catalogues mailed. 25-6m

## KANSAS STATE AGRICULTURAL COLLEGE.

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**THIS** College furnishes a thorough and direct education to those who intend to be Farmers, Mechanics, or to follow other Industrial Pursuits. As a foundation for each course of study, and for success in daily life, the first object is to make every student an expert in the use of the English Language as an art; and, also, an expert in Practical Mathematics, including skill in the use of numbers; in the use of lines, or Industrial Drawing; in Book-Keeping and Practical Law. Words, numbers and lines are the tools used by all industrialists in conveying or preserving ideas; and our endeavor is to make the student a ready workman in the art of using these tools for practical purposes, rather than to make him a critic of fancy English or a professor of abstract Mathematics.

#### FARMER'S COURSE.

Building on this foundation, the special object of the Farmer's Course is to give the student a practical knowledge of the Structure, Growth, and Value of Plants; of light, heat, and moisture; and of Inorganic, Organic, Analytical, and Agricultural Chemistry, as these are related to Plant and Animal Growth; of Economic Zoology; and particularly of Practical Agriculture and Horticulture, including such instruction and drill in the Field, in the handling of Stock, in the Nursery, in the Wood and Iron Shops, as will enable the graduate to perform readily each of the varied operations of actual Farm Life.

The Farmer's Course is the leading one of the Institution. In the other courses, the special studies are equally determined by the requirements of the proposed vocation.

#### MECHANIC'S.

To Mechanics, in addition to those studies of the Farmer's Course which are useful to the student in his proposed vocation, applied Mathematics and Industrial Drawing are more extensively taught. Besides this literary education, the student is taught daily in the particular workshop of his trade. Special advantages are thus offered to those who wish an education as a Carpenter, Cabinet-maker, Wagon-maker, Blacksmith, Turner, Carver, Engraver, or Printer. No charge made for the use of tools or material for class practice.

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The course of study for woman is more practical, and, therefore, more sensible than that found in any other institution in the United States. The studies are shaped with reference to the liberal and direct education of woman as a woman instead of as a man, and as an industrialist instead of a butterfly. Among the special features of the course are Physiology and Special Hygiene, Household Economy, Farm Economy, Gardening, Household Chemistry, etc.

The workshops include those of the Milliner and Dress-maker, Printing, Telegraph, Scroll-Sawing, Carving, Engraving and Industrial Music.

Superior advantages are offered to students of higher Chemistry, to Mineralogists, Druggists, Operators, and Workers in metals.

Full collections of the Plants, Insects and Birds of Kansas, are being made as rapidly as possible.

#### TUITION ABSOLUTELY FREE!

No contingent fees, except for use of pianos and organs. Boarding ranges from \$2.75 to \$4.00 per week.

**CALENDAR:**—Winter Term began Wednesday, January 5, and closes Wednesday, May 17, 1876.

For further information, apply to

**J. A. Anderson,**  
President.



# INDUSTRIALIST EXTRA.

## Notices of the Press.

The INDUSTRIALIST very sincerely and heartily thanks the Press of Kansas for a welcome far more general and cordial than it at all expected. The regular publication by the Printing Department of a College of a weekly paper, even so small as this, combines both the newness of an experiment and the application by experts of the sure test of experience. No men are so competent to judge of the quality of typographical work as are those daily engaged in making and printing newspapers. And we credit their generous reception of this beginning of our newspaper experiment more to their generosity than to the merits of the paper itself. They, more fully than others can, realize the difficulties which must beset an attempt to give an apprentice that literary education which colleges can, and offices cannot furnish, and, at the same time, a measure of that manual drill which offices can give and which no college has heretofore attempted to give. And because of this knowledge upon their part, we fancy that, in the desire to afford a fair field for this part of the experiment, they have very largely tempered typographical justice with the American workman's generosity.

In some of these notices, the spirit of warm personal friendship is apparent; and, in the exercise of that gratitude which is inseparable from humanity, we gladly acknowledge this addition to our former indebtedness. But the great majority of these expressions have come from strangers, or from those who sincerely doubt the practicability of the policy now executed in this Institution; and because of this fact do we heed their judgment.

If what we are seeking to do can be done,—that is, to teach the sciences which bear upon a given industry, and the art together—certainly the coming generation may be the better. But if this cannot be done, then the world may be the wiser for knowing that, after a fair trial, it had not been done. Often the knowledge that a thing is not feasible is quite as valuable as the knowledge that it is feasible. And while we do not give to these notices more weight than is their just due, crediting something to conventional courtesy; and while we do not claim to have yet worked out this branch of the whole problem, but rather to have only begun; yet we very well know that if the INDUSTRIALIST had not been up to the mark which, under all the circumstances, might fairly have been expected, no men in the world would have more frankly and decidedly said so than the editors of Kansas.

In the final solution of the problem of Industrial Education, we have as great, but no greater, interest than they; and, after again thanking each and all of those who have spoken for their interest in the subject, we herewith present our readers every notice which has yet come to hand—not in the way of glorification, but that they may know what judgment the Press has passed upon the experiment at this stage of progress:

The Printing Department of the Kansas State Agricultural College, April 24th, commenced the issue of a little paper called *The Industrialist*. It contains three columns to the page, its matter neatly arranged, and the whole elegantly printed. At the head we read: "J. A. Anderson, Managing Editor; J. H. Folks, Business Manager. Associate Editors, Members of the Faculty." In the salutatory we are told that the *Industrialist* is started in the interest, but not at the expense, of the Agricultural College—two gentlemen will meet its losses. Folks represents the newspapers on the Board of Regents, and as he is located away down in Wellington, Sumner county, we figure that the only possible connection he can have with the business of this enterprise will be as one of the two who will make up its losses. But we apprehend there will be no losses to it. John A. Anderson never took hold of anything but that he made it win.

We are glad *The Industrialist* has appeared, and the only disappointment we experience after reading it, is that there is not enough of it. But it is of prudent size. The theory Anderson has of teaching printing can be better advanced by the issuance of a live newspaper—something the boys and girls can see and interest themselves in—than by the dull and aimless routine of setting type solely for the purpose of pulling them down again. And by this effort he can also illustrate the need and probable success of the practical use of tools in educating in other mechanical pursuits. Moreover, the "new departure" in that Institution greatly needs an interested public sentiment. It has been a hard effort to overcome the idea that the Agricultural College was simply a duplicate of the University. The newspapers

have noticed and discussed the change, but not sufficiently to arouse special interest. An "organ" will do this. We know the *Industrialist* will make lively music. Its articles are short and sweet, and just such as would be expected from a practical Institution. Its purposes are stated in its salutatory as follows.—*Junction City Union*. (Extract omitted.)

We have received a neat little paper called *The Industrialist* published every Saturday by the Printing Department of the Kansas State Agricultural College. The paper shows three columns to the page, typographically O. K. J. A. Anderson is announced as managing editor, with John H. Folks as business manager—which makes another responsibility for John, with no body knows how many in prospective. The salutatory states that the *Industrialist* is started in the interest, but not at the expense, of the College, two gentlemen agreeing to meet the losses if any occur, and the profits, if any, will be expended on the paper. The number before us contains articles on "Forage Plants in Kansas," by Prof. Shelton, and on the "Grasshopper," by Prof. Whitman. The leading editorial is headed "Something Besides Corn." The third and fourth pages are largely devoted to college news and advertisements, and this must end our "review" of the nice and most readable "college paper" we have seen in a long time.—*Commonwealth*.

We are in receipt of Vol. 1, No. 1, of a neat little paper called "*The Industrialist*," about the size of the Topeka Blade, which emanates from the Kansas State Agricultural College, with Prof. J. A. Anderson, President of the College, as managing editor, and J. H. Folks, business manager, and members of the faculty as associate editors. One object of the paper, as stated in the "Salutatory," is to afford the members of the printing classes of the College regular drill in the work of printing and publishing newspaper. It does not propose to trench upon the ground occupied by other journals of the State.

It "is started in the interest, but not at the expense, of the Agricultural College." Two gentlemen will meet its losses, and any profit arising from its publication will be expended upon the paper itself. It does not now give the names of the said two gentlemen, but will, no doubt, when the paper grows into a great journal, like the New York Tribune for instance. Success to the *Industrialist*.—*Emporia Ledger*.

We have received numbers one and two, of a neatly-printed little paper called *The Industrialist*, published every collegiate Saturday, by the Printing Department of the Agricultural College at Manhattan, at seventy-five cents a year, cash down. J. A. Anderson is managing editor, J. H. Folks, business manager, and members of the faculty are associate editors. The boast that it is "compact, brimful, and wide-awake," is not a vain one. We never before saw so small a paper with so large an amount of valuable and interesting reading matter. It tells all about the College, all about farm crops, and grasshoppers, chinch bug and other insect enemies of the farmer. It tells about forests and fruit trees, timber belts, their uses, &c., &c., with divers and sundry other things too numerous to mention. All friends of the College should subscribe for the "*Industrialist*." Address A. A. Stewart, Manhattan, Kansas.—*Wyandotte Gazette*.

We have received the first and second numbers of the *Industrialist*, a neat little paper published every Saturday by the Printing Department of the Kansas State Agricultural College at Manhattan. It is a gem of typographical neatness, and reflects great credit upon the students of the College, who are wholly responsible for the mechanical work. It is edited by President Anderson, and members of the faculty. We have read both numbers with scissors in hand, and we only regret that we cannot give our readers a reproduction of their entire contents. And as we find our name set opposite that of President Anderson, "Business Manager," we shall make no apology to the editor and publishers if we "manage" to cull liberally from its columns for the benefit of the readers of the *Press*.—*Wellington Press*.

We have received the *Industrialist*, of Manhattan, a neat little sheet of twelve columns, printed in the Printing Department of the Agricultural College, and devoted to the affording of practice to learners in that department; to the epitomizing of current events at the College; to the photographing of work of the institution; and to the discussion of the benefits of the Industrial system of training. President J. A. Anderson is its manager.



itor. We welcome this neat and promising outgrowth of the practical work of the College, and predict for it a career of usefulness.—*Concordia Empire*.

A neat little paper called *The Industrialist*, has just made its appearance from the Printing Department of the Agricultural College. It will be a great help to the printing class. It is well gotten up, and as President Anderson controls its columns, it is always well and always will be newsy and sensible. It will be published weekly during the college term, and as the subscription price is only 75 cents, it ought to be taken by every one interested in the college—especially the parents of students. Success to the new venture.—*Manhattan Nationalist*.

We have received No. 1, Vol. 1, of the *Industrialist*, a very neat sheet, 8x11, published for the benefit of the members of the printing classes of the Agricultural College of Manhattan. This neat little sheet, although much less in inches at its birth than newspapers generally, is nothing less in importance. We welcome the little visitor and wish its managers every success in their new and peculiar undertaking.—*Minneapolis Independent*.

Vol. 1, No. 1, of a very sprightly little three-column folio sheet bearing the name of the *Industrialist*, issued by the Agricultural College Printing Department is upon our table. It has J. A. Anderson as managing editor and J. H. Folks as business editor, wonder if it is John H. Folks, formerly of the Press at Wellington?) The paper is well printed and filled with interesting matter pertaining to the College and farm.—*Farmer's Advocate*.

The *Industrialist* is the name of a bright, clearly printed, miniature, weekly paper published by the State Agricultural College of Manhattan, at 75 cents per year. President Anderson is to manage it himself, and the newspaper men of the State show his ability in that line. The objects of the paper, and they are worthy ones, are set forth in the following extract.—*Lawrence Journal*. (Extract omitted.)

The first number of the *Industrialist*, published at the Kansas State Agricultural College, presented itself on our table this morning. It is the same size as the *Blade*, minus border, and is, in all respects, a creditable publication. It is the production of the printing classes of the College; is to be issued weekly; is edited by Messrs. Anderson and Folks, and will be furnished by mail for 75 cents a year.—*Topeka Daily Blade*.

We have received the first number of the Manhattan *Industrialist* a neat little paper published by the Printing Department of the Agricultural College at Manhattan. J. A. Anderson is the managing editor, and the members of the faculty are associate editors. The number before us is full of interesting items about the College.—*Osage City Free Press*.

The initial number of the *Industrialist*, a neat little twelve column paper, published at the State Agricultural College, Manhattan, is received and placed upon our "ex" list. J. A. Anderson and J. H. Folks are the editors, and from the manner in which they handle matters and things, we should say they mean business.—*Parsons Eclipse*.

But the Agricultural College may be made an excellent school for our children, where common sense is taught instead of dead languages. And from late moves by the faculty, we are inclined to think that the College is picking up. One of its latest efforts is a newspaper—the *Industrialist*—published weekly. The first numbers are excellent, and contain a fund of knowledge.—*Seneca Courier*. (Extracts omitted.)

We are glad to welcome to our exchange table, the valuable little sheet issued by President Anderson, at the Agricultural College. It is one of the new features of President Anderson's departure," and promises success. The field it proposes to occupy, is told in a straight out manner as follows.—*Kansas Farmer*. (Extract omitted.)

We have received the first number of the *Industrialist*, a neat little paper issued weekly by the Printing Department of the Kansas Agricultural College. The President and members of the faculty are editors, and it is published in the interest, but not at the expense of the College.—*Burlington Patriot*.

The Printing Department of the Agricultural College at Manhattan has begun the publication of a weekly newspaper called *The Industrialist*. President Anderson assumes control of the editorial department. We think this a correct move, and wish the young enterprise success.—*Neodesha Press*.

We extend a hearty greeting to the *Industrialist*, a lively, well printed little sheet, the exponent of the hopes and work of our State Agricultural College. It is only seventy-five cents a year, and gives a goodly account of original and useful matters. We shall make holes in the *Industrialist*.—*Wamego Blade*.

We have received the first number of the *Industrialist*, a neat little paper issued weekly by the Printing Department of the Kansas State Agricultural College. The President and members of the faculty are editors, and it is published in the interest, but not at the expense, of the College.—*Iola Register*.

The new College paper, the *Industrialist*, is spoken of in very flattering terms by the press of the State. Indeed, its merits are such that it could not be otherwise. We expect to scissor it extensively, and would like to transfer about half of the last issue to our columns.—*Manhattan Nationalist*.

We have just received No. 1 of "*The Industrialist*," published by the Agricultural College. There are only three columns to the page, but they are well filled, and the whole paper presents a handsome appearance. If printing is to be taught at the College, this is the best way.—*Junction City Tribune*.

The *Industrialist*, published at the State Agricultural College at Manhattan is on our table. It is typographically perfection, and filled with matter, prepared and selected with great care. J. A. Anderson, President of the College, is managing editor.—*St. Mary's Times*.

We have received the two first numbers of the Manhattan *Industrialist*, a pretty little sheet, ably edited, and published under the auspices of the Agricultural College. Its scientific articles in relation to farming we have read with unusual interest.—*Ellsworth Reporter*.

"*The Industrialist*" is the large name of a little paper published at the Agricultural College, Manhattan. The first number is spicy, and readable, and we wish all its successors success. It is on our exchange list and we make a clipping to begin with.—*Peabody Gazette*.

The Printing bureau of the State Agricultural College is issuing a paper called *The Industrialist*, of which Mr. A. A. Stewart, formerly of the Independent office, is Superintendent. The paper is diminutive but presents a fair specimen of neat typography.—*Oswego Independent*.

We are in receipt of "*The Industrialist*"—a neat little twelve column sheet, printed at the Agricultural College, at Manhattan, Kansas, by the Printing Department of the College. The paper is a little beauty and is an enterprise that should be encouraged.—*Columbus Courier*.

We have received the second number of "*The Industrialist*," a neat little sheet full of valuable reading, published by the Agricultural College folks. We gladly place the *Industrialist* on our exchange list.—*Louisville Reporter*.

We are in receipt of several new exchanges this week. Among them are the *Industrialist*, Manhattan, Kansas, a miniature weekly published by the College people, and a model of taste and beauty.—*Thayer Headlight*.

We acknowledge the receipt of Vol. 1, No. 1, of the *Industrialist* published at the State Agricultural College at Manhattan. It is small, but about the neatest publication in the State.—*Coffeyville Courier*.

We have received the first number of the Manhattan *Industrialist*, a neat little weekly issued by the Agricultural College. Prof. John A. Anderson is the managing editor.—*Paola Spirit*.

We have received the second number of a neat little paper, called *The Industrialist*, published at the Agricultural College, Manhattan. Price 75c per year.—*Topeka Times*.

An excellent little paper, called the *Industrialist*, has recently been established at the State Agricultural College, Manhattan.—*Osage Co. Chronicle*.

We have received the first number of the Manhattan *Industrialist*, a neat little weekly issued by the Agricultural College.—*Morris Co. Republican*.

The *Industrialist* is the name of a new paper published at the Agricultural College, and is a model of typographical neatness.—*Woodson Co. Post*.

The *Industrialist* is the name of a neat little paper just started at Manhattan under the auspices of the College.—*Waterville Telegraph*.